### **EPA Superfund Preliminary Assessment/Site Inspection:**

ASHLAND/NORTHERN STATES POWER LAKEFRONT EPA ID: WISFN0507952 10/20/99 ASHLAND, WI

This document is a combined report of both the Preliminary Assessment and Site Inspection activities.

Reference 14 143023



1999 SUPPLEMENTAL SITE INVESTIGATION

FOR THE NORTHERN STATES POWER FACILITY ASHLAND, WISCONSIN

OCTOBER 22, 1999

### A DAMES a MOORE GROUP COMPANY

October 22, 1999

23 Kcsscl Court. Suite 21)1 Nladison, Wisconsin 537[1-22 608 273 2386 Tel 608 273 3415 Fax

Mr. James R. Dunn District Hydrogeologist Wisconsin Department of Natural Resources P.O. Box 309 Spooner, WI 54 801

R.E: Dames & Moore Project No. 05644-093
1999 Supplemental Site Investigation
Northern States Power, Ashland. Wisconsin

Dear Mr. Dunn:

On behalf of Northern States Power (NSP), Dames & Moore has prepared this report summarizing additional site investigation work completed at NSP's Ashland facility in August 1999. This request for additional site characterization results from review comments you provided on Dames & Moore's March 1999 report entitled Supplemental Facility Site Investigation and Remedial Action Options Evaluation Report. We discussed these comments in a meeting held on July 14, 1999. Subsequently, we provided a Work Plan dated July 29, 1999, which you conditionally approved on August 5, 1999. All work was completed in accordance with the approved Work Plan, and the VVDNR approval letter.

Please note that we have included recommendations for obtaining further data to optimize the design for the proposed interim action on the Copper Falls Aquifer. These include the installation of two deep piezometers, and collection and analysis of a complete round of groundwater quality data from all site wells. Because of the imminent onset of poor weather conditions in Ashland at this time of year, we would like to perform this work as soon as possible.

Sincerely

DAMES & MOORE

David P. Trainor, P.E., P.G. Principal

Mark S. McColloch, P.G. Project Geologist

cc: Mark Gordon, WDNR Madison
 Jim Musso, NSP
 John Wilson, NSP
 Dave Crass, Michael Best & Friedrich

Offices Worldwide

I, David P. Trainor, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code: that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

David P. Trainor, P.E. Senior Project Manager

P.E. Number Date

I, Mark S. McColloch, hereby certify that I am a Hydrogeologist as that term is defined in s. NR 712.03(1) Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Mark S. McColloch, P.G. P.G. Number Date Hydrogeologist

### TABLE OF CONTENTS

1.0	TMTD	DDUCTION	Page 1
1.0	1.1	Site Description	
	1.2	Site History	
	1.3	Purpose	
			-
2.0		LEMENTAL SITE INVESTIGATION ACTIVITIES	
	2.1	Ravine Delineation Borings and Monitoring Well Installation	
	2.3	Survey, Well Development, and Fluid Level Measurements	
	2.4	Groundwater Sample Collection	. 5
3.0	SUPP	LEMENTAL SITE INVESTIGATION RESULTS	. 6
	3.1	Soil Sample Results	. 6
	3.2	Groundwater Sample Results	. 6
4.0	SUMMA	ARYAND CONCLUSIONS	8
5.0	RECO	MMENDATIONS	10
<b></b>	a		
TABLE	<u> </u>		
Table		Summary of Monitor Well and Piezometer Construction	
Table Table	_	Summary of Groundwater Elevations  Cummary of Error Dhaga Hydrogarbon Thighnesses	
Table	_	Summary of Free Phase Hydrocarbon Thicknesses August 1999 Soil Sample Results	
Table	5	August 1999 Groundwater Monitoring Results - VOC and Inorganics	
Table	6	August 1999 Groundwater Monitoring Results - SVOCs	
FIGUR	<u>ES</u>		
Figur	e I	Site Location Map	
Figur	e 2	Existing Conditions	
APPEN	DICES		
Appen	dix A	Soil Boring Logs, Well Construction Forms and Well Development Forms for 13-35, B -3) 6 1MW- 16, B-3 ) 7, MW- 17, and MW- I $78$	A
Appen		· · ·	
Appen	dix C	Laboratory Reports for B-35, B-')6/MW-16, and B-37 Borings	

### 1.0 INTRODUCTION

### 1.1 Site Description

As shown on Figure 1, the site is located approximately 1.000 feet southeast of the shore of Chequamegon Bay on Lake Superior. The site is occupied by a small office building and parking lot fronting on Lakeshore Drive. A larger vehicle maintenance building, offices, and parking lot area are located south of St. Claire Street between Prentice Avenue and 3rd Avenue East. A gravel parking and storage yard area occupies an area north of St. Claire Street. A large microwave tower is located on the north end of the storage yard. The office building and vehicle maintenance building are separated by an alley.

The area occupied by the buildings and parking lots is relatively flat, at an elevation of approximately 6-40 feet above mean sea level. Drainage from the NSP property is to the north. To the northwest, the site slopes steeply to the Wisconsin Central Limited Railroad, and then to the City of Ashland's Kreher Park, beyond which is Chequamegon Bay.

### 1.2 Site History

A comprehensive site background is presented in Section 1.1 of the Site Investigation and Remedial Action Plan prepared for NSP by Dames & Moore on August 1, 1995. This background includes information on the site's former usage as a Manufactured Gas Plant (MGP) facility, the historical filling of the former ravine, and the results of environmental investigations conducted by the WDNR on the adjacent property to the north at Kreher Park. Subsequent phases of investigation were completed in 1996, 1997, and 1998. Results of these investigations were presented in previous reports presented to the Wisconsin Department of Natural Resources (WDNR), the most recent of these was the Supplemental Facility Site Investigation and Remedial Action Options Evaluation Report, dated March 1, 1999.

### 1.3 Purpose

The purpose of this report is to present the results of a supplemental site investigation completed between August 23 and September 2. 1999. This site investigation was completed in response to the WDNR comments on Dames & Moore's March 1, 1999 report entitled Supplemental Facility Site Investigation and Remedial Action Options Evaluation Report. A Work Plan was prepared following a July 14, 1999 meeting between NSP and the WDNR to discuss site investigation results presented in the March report. The July 29, 1999 Work Plan was subsequently approved in an August 5, 1999 letter.

### 1.4 Scope of Work

The scope of work completed during the supplemental site investigation includes the following:

• The collection of soil samples from soil <u>borings</u>, and installation of a monitoring well, to identify the extent of the ravine fill upgradient from well MW- 15;

- The installation of a water table observation well in the Miller Creek Formation, and an adjacent piezometer in the upper Copper Falls Aquifer, side gradient of the former MGP facility to identify the lateral extent of groundwater contamination;
- Development of new monitoring wells, and survey of the PVC well casings as reference elevations;
- Fluid level measurements in all monitoring wells on the NSP property and in all wells on the Kreher Park property; and
- The collection of groundwater samples from all monitoring wells on the NSP property and from ail wells on the Kreher Park property.

### 2.0 SUPPLEMENTAL SITE INVESTIGATION ACTIVITIES

### 2.1 Ravine Delineation Borings and Monitoring Well Installation

Dames & Moore coordinated the collection of soil samples from 3 additional soil borings to further define the lateral extent of fill within the backfilled ravine. Borings B-35. B-36. and B-37 were advanced south of LNIW-15, in a parking lot south of the vehicle maintenance building. All boreholes were advanced with a truck mounted drill rig utilizing 41/4-inch ID hollow stem augers. Soil samples were collected at 2.5 foot intervals using a split-barrel sampler. Soil cuttings were placed in 55-gallon drums, temporarily stored on site, and subsequently hauled to Superior Environmental Service's Seven Mile Creek landfill near Eau Claire for disposal. A Dames & Moore geologist supervised drilling activities. and visually classified soil units in accordance with the Unified Soil Classification System. Soil boring and monitoring well locations are shown in Figure 2. Soil boring logs, well construction forms, and borehole abandonment forms are included in Appendix A.

One soil sample per boring was selected for laboratory analysis. These samples were analyzed for volatile organic compounds (VOCs) and inorganics (metals and cyanide), included in Appendix A of the Spill Response Agreement. Borings B-35 and B-37 were abandoned with granular bentonite after sample collection; water table observation well MW-16 was installed in the B-36 boring. This well was constructed with 2-inch diameter schedule 40 PVC well casing and screen. The 10-foot screen was placed between 6 and 16 feet. A sand pack was placed around the %veil screen, and the annular space was backfilled with granular bentonite as the augers were removed. The well was encased in a protective well casing with a locking cap. A summary of well construction elevations for all site wells, including MW- 16, is included in Table 1.

### 2.2 Side Gradient Monitoring Well Installation

Wells MW-17 and MW-I7A were installed on NSP property north of St. Clair Street and east of Prentice Avenue, side gradient from the former MGP facility. Well MW-17 was installed in the Miller Creek Formation as a water table observation well, and adjacent well MW-17A was installed as a piezometer in the underlying Copper Falls formation. Both wells were constructed with 2-inch diameter schedule 40 PVC well casing and screen. Well MW-17 was constructed with a 10-foot screen and placed between 5 and 15 feet. Well MW-17A was constructed with a 5-foot screen placed between 50 and 55 feet. Sand packs were placed around each well screen. and the annular space was backfilled with granular bentonite as the augers were removed. Both wells were encased in a protective well casing with a locking cap. A summary of well construction elevations for all site wells is included in Table 1.

Both boreholes were advanced with a truck mounted drill rig utilizing 41/4-inch ID hollow stem augers. Soil samples were collected at 2.5 foot intervals using a split-barrel sampler. As with previous site work, soil cuttings were placed in 55-gallon drums, temporarily stored on site. and subsequently hauled to Superior's Seven Mile Creek landfill near Eau Claire for disposal. A Dames & Moore geologist supervised drilling activities, and

visually classified soil units in accordance with the Unified Soil Classification System. Monitoring well locations are shown in Figure 2. Soil boring logs and %veil construction forms are included in Appendix A.

### 2.3 Survey, Well Development, and Fluid Level Measurements

Following well installation, the elevation of the top of the PVC well casing on wells MW-16, MW-17, and MW-17A were surveyed as reference elevations. These new monitoring wells were also developed by surging and bailing.\_Purge water was placed in 55 gallon drums, temporarily stored on site, and later transported to the City of Ashland wastewater treatment plant for disposal. Well development forms are included in Appendix A.

Prior to sample collection, static fluid levels were measured in all site monitoring wells. Static water levels were also measured in wells MW-1 (NET), MW-2 (NET), MW-2A (NET), MW-2B (NET), MW-3 (NET), MW-7A, TW-11, and TW-12 at Kreher Park. For the flowing artesian wells (MW-7A, MW-2A, and MW-2B), additional PVC sections were connected to the well head to measure height above the top of the PVC well casing. Water levels measured in 1997,1998. and 1999 are summarized in Table 2.

Free phase hydrocarbons consisting of dense non-aqueous phase liquids (DNAPL) were encountered in wells EW-1, MW-9, TW-13, MW-13A, MW-13B, and MW-15 near the NSP facility, and in well MW-7 at Kreher Park. Free phase hydrocarbons were measured at thicknesses greater than 5-feet in wells EW-1, MNV-7, MW-13A, MW-13B, and MW-15. In accordance with the approved Work Plan, groundwater samples were not collected from these wells. Hydrocarbon levels and thicknesses measured in 1998 and 1999 are summarized in Table 3.

### 2.4 Groundwater Sample Collection

Groundwater samples were collected from monitoring wells located on the NSP property and in Kreher Park between August 23<sup>rd</sup> and 30th. Groundwater samples were collected from the following wells on the NSP property:

MW-1	MW-4B	MW – 6	MW-9A	TW-13
MW-2	MW-5	MW-6A	MW-10	MW-14
MW-3	MW-5A	MW-8	MW-10A	MW-16
MW-4	MW-5B	MW-8A	MW-11	MW-17
MW-4A	MW-5C	MW-9	MW-12	MW-17A

Additionally, samples were collected from the following wells located in Kreher Park.

MW-1(NET)	MW-2B(NET)	TW-11
MW-2(NET)	MW-3(NET)	TW-12
MW-2A(NET)	MW-7A	

A delay is shipping by the carrier resulted in several samples arriving at the laboratory at a temperature above 4C. Consequently, samples were collected from wells MW-3, MW-4, MW-4A, MW-4B, MW-7A, MW-12, and MW-14 on September 2, 1999, and shipped to the laboratory for analysis.

The sample color, odor, and turbidity were recorded on field sampling forms along with depth to water and depth to bottom measurements. Water level measurements were used to calculate purge well volumes. Four well casing volumes were removed from each well prior to sample collection. All purge water was collected in a 55 gallon drums, and temporarily stored on site. This water was later transported to the City of Ashland wastewater treatment plant for disposal.

Disposable bailers were used to collect each sample. Samples were placed in laboratory containers, held in coolers on ice, and shipped to Northern Lake Service, Inc. of Crandon, Wisconsin for analyses. All groundwater samples were analyzed for the VOCs, SVOCs, and inorganics (metals and cyanide) included in Appendix A of the Spill Response Agreement. Samples collected for metals analysis were filtered in the field at the time of sample collection. Duplicate samples were collected from wells MW-2, MW-4, MW-5A. MW-2A(NET), and TW-11. Four trip blank samples, one per shipment, accompanied the sample bottles and were analyzed for VOCs. Results are summarized in Tables 5 and 6, and laboratory reports are included in Appendix B.

### 3.0 SUPPLEMENTAL SITE INVESTIGATION RESULTS

### 3.1 Soil Sample Results

Soil samples were collected from the B-35, B-36, and B-37 borings at intervals between 8 to 10 feet, 3 to 5 feet, and 10 to 12 feet, respectively. Samples were analyzed for VOC, SVOCs, cyanide, and metals (arsenic, chromium, copper, iron, lead, nickel, and zinc) included in Appendix A of the Spill Response Agreement. Sample results are summarized in Table 4, and laboratory reports are included in Appendix C.

As shown in Table 4, arsenic was detected in soil samples collected from B-35 and B-37 at concentrations above the residual contaminant level (RCL) for industrial land use. Chromium and lead were detected in soil samples collected from all three borings, but at concentrations below the RCL. No RCLs have been established for the remaining metals (copper, iron. nickel, and zinc) detected in soil samples. Cyanide was not detected above the limit of detection in any sample.

Naphthalene was detected in the soil sample collected from the B-36 boring at a concentration above the limit of detection (LOD), but below the limit of quantitation (LOQ). The laboratory considers concentrations detected below the LOQ to be "less than certain." Regardless, naphthalene was not detected above the 12roundwater pathway RCL. Additionally, naphthalene was not detected in the SVOC analysis. No other VOCs or SVOCs were detected in soil samples collected from these borings.

### 3.2 Groundwater Sample Results

Groundwater samples were analyzed for VOC, SVOCs, cyanide, and metals (arsenic, chromium, copper, iron. lead. nickel, and zinc) included in Appendix A of the Spill Response Agreement. Results for groundwater samples collected from wells on the NSP property are summarized in Table 5, and samples collected from the Kreher Park property are summarized in Table 6. Laboratory reports are included in Appendix C.

In general, results for groundwater samples collected in August 1999 are similar to sample results from previous phases of investigation. DNAPL was detected in wells MW-15, MW-9, and TW-13 at thicknesses of 10.6 feet, 1.6 feet, and < 6-inches, respectively. Elevated levels of dissolved phase constituents were detected in samples collected from wells MW-3, MW-4, MW-9, MW-12, TW-13, and MW-14 located in -he backfilled ravine south of St. Claire Street. Samples collected from wells located northeast (MW.3 and MW-17), south east (MW-16), south (MW-6), and west (MW-16 and MW-10) of the former MGP indicate that groundwater contamination is limited to the backfilled ravine. Samples collected from wells MW-1 and MW-2 indicate that the plume width narrows north of St. Claire Street. Samples collected from MW-5 (located at the mouth of the backfilled ravine) indicate that DNAPL is not present north of St. Claire Street; the concentration of dissolved phase constituents decrease with distance from the former MGP.

Samples collected from shallow wells MW-1(NET), MW-2(1NET), MW-3(INET), TW-11, and TW-12 in Kreher Park indicate that groundwater contamination is

also present within the lakefront fill material. DNAPL was measured at a thickness of 10.44 feet in well MW-7 located on Kreher Park.

Groundwater samples collected from wells screened in the upper Copper Falls aquifer indicate that the highest levels of contamination are present beneath the backfilled ravine south of St. Claire Street. DNAPL was measured at thicknesses of 19.2 feet in EW-1, and at a thickness of 8.5 feet in well MW-13A. Elevated levels of dissolved phase constituents were detected in samples collected from wells MW-4A, MW-5B, and MW-8A on the NSP property, and in samples collected from MW-2B(NET) and MW-7A in Kreher Park. Samples collected from wells located northeast (MW-8A and MW-17A), south (MW-6A), and west (MW-10A) of the former MGP indicate that groundwater contamination is limited to the area located beneath the backfilled ravine.

Samples collected from wells MW-2A and MW-5C indicate that the concentrations of dissolved phase constituents decrease with depth in the Copper Falls Aquifer downgradient from the facility. The MW-4B sample indicates that dissolved phase constituents decrease with depth upgradient from the backfilled ravine. However, site investigation results indicate that contaminants have migrated vertically beneath the backfilled ravine south of St. Claire Street. Approximately 26 feet of DNAPL was measured in well MW-1313. Samples collected from MNV-9A indicate that dissolved phase constituents have migrated vertically into the lower Copper Falls Aquifer. As shown in Table 5, total VOCs were detected at 47,040 ug/L, and SVOCS were detected at 4,470 ug/L in the August 1999 MW-9A sample. Constituents of regulatory concern detected in this sample included benzene, ethylbenzene, toluene, xylene, and naphthalene. The concentrations of these dissolved phase constituents have increased since samples were last collected from well MW-9A. In September 1997, total VOCs were detected at 201 uq/L, and in 1996 total VOCs were detected at 103 ug/L in samples collected from this well.

### 4.0 SUMMARY AND CONCLUSIONS

A supplemental site investigation was completed in August 1999 in response to a request for additional information from the WDNR. The purpose of this investigation was to define the lateral extent of the ravine fill and the lateral extent of DNAPL south of well MW-15, and to identify the lateral extent of groundwater contamination side gradient from the former MGP. This investigation included the advancement of three soil borings (B-35, B-36, and B-37), the installation of three monitoring wells (MW-16, MW-17, and MW-17A), fluid level monitoring, and groundwater monitoring.

Native soil was encountered beneath the asphalt pavement in borings 3-35, B-36, and B-37 advanced in an east-west trending line approximately 40 feet south of MW-15. Soil samples collected from these borings and a groundwater sample collected from MW-16 (installed in the B-36 boring), indicate that contamination is not present south of the backfilled ravine in this area. Additionally, samples collected from wells MW-17 and MW-17A installed in the NSP storage yard northeast of the former MGP facility indicate that groundwater contamination is not present at this sidegradient location.

In general, fluid level and groundwater monitoring results for samples collected in August 1999 are similar to sample results from previous phases of investigation. DNAPL was measured in wells MW-9, TW-13, and MW-15 screened in the backfilled ravine south of St. Claire Street, and in MW-7 located on the Kreher Park property. DNAPL was also encountered in wells EW-1, MW-13A, and MW-13B screened in the underlying Copper Falls Aquifer. In accordance with the approved Work Plan, samples were not collected from wells EW-1, MW-7, MW-13A, MW-13B, and MW-15 because DNAPL was measured at thickness greater than 5 feet in these wells. Perimeter wells installed in the Miller Creek formation indicate that DNAPL and dissolved phase groundwater contamination is limited to the backfilled ravine south of St. Claire Street; lower levels of groundwater contamination (and no DNAPL) were found in wells located in the ravine north of St. Claire Street. Samples collected from shallow wells located on the Kreher Park property indicate that contamination is also present in the backfill material along the lakeftont.

DNAPL was encountered and dissolved phase constituents were also detected in samples collected from wells screened in the upper Copper Falls Aquifer near the former MGP facility. The lateral extent of dissolved phase contamination has been identified to the east, south, and west of the former MGP facility. To the north, in the downgradient direction of groundwazer flow, dissolved phase constituents in the Copper Falls Aquifer decrease with distance downgradient from the source area. Elevated levels of dissolved phase contamination have been identified in samples collected from MW-2B(NET), screened below the Miller Creek aquitard at Kreher Park. A deeper piezometer at that location (MW-2A(NET)) yielded lower levels of dissolved phase constituents. This indicates that the plume thins downgradient from the source area in the Copper Falls Aquifer. However, DNAPL encountered in MW-13B and dissolved phase constituents detected in MW-9A indicate that contaminants have migrated vertically in the lower Copper Falls Aquifer beneath the source area.

### 5.0 RECOMMENDATIONS

In a September 30, 1990, letter to the WDNR, NSP formally requested that the March 1, 1999 report and remedial action plan for the NSP property be reviewed for implementation of an interim response on the Copper Falls Aquifer. This action should be specifically directed toward removal of the DNAPL groundwater contamination source. Given seasonal constraints, Dames & Moore recommends that this interim response be designed for installation during the Spring of 2000.

Prior to system design, fW1 characterization of the extent of DNAPL is needed. Accordingly, we recommend the installation of two additional piezometers to verify the vertical extent of DNAPL. Piezometer MW-9B should be installed adjacent to wells MW-9 and MW-9A, and screened between 105 and 110 feet. Piezometer MW-13C should be installed adjacent to MW-13A and MW-13B, and also screened between 105 and 110 feet. Static water levels should be recorded in these wells a minimum of two weeks after well development.

We also recommend that a complete round of groundwater analyses should be collected from all site wells at the time of piezometer installation. This round will provide additional baseline groundwater quality information prior to the implementation of the remedial action.

Preliminary design concepts for the interim action will be finalized when the data is developed following installation of the new piezometers and receipt of the next round of groundwater quality analyses. Conceptually, if DNAPL is not encountered in either or both of the proposed piezometers, two additional extraction wells should be installed. Extraction wells EW-2 should be installed midway between EW-1 and MW-9/MW-9A at a depth of 90 feet. Extraction well EW-3 should be installed adjacent to MW-9/MW-9A at a depth of 70 feet. Both wells should be constructed with 6-inch diameter stainless steel wire-wound screens 30 feet in length, and black iron pipe well casing.

If DNAPL is encountered at depth in either or both proposed piezometers MW-9B and MW-13-C, Dames & Moore will consider either lengthening the screen, or deepening the screened interval of proposed well EW-2. Depending on the data developed, this conceptual plan may be necessarily modified during design.

**TABLES** 

Prof.   Prof				Samma	ry of Monitor	Table 1 Summary of Monitor Well and Piczometer Construc	ezometer Co	astruction			
NSP Wells			Elevation PVC	Elev. Ground	Total Borchole	Screened Interval (Ft. below surface)	Depth Top of Filter Pack (Ft.)	Elev. Top of Filter Pack (Ft. MSL)	Depth Bottom of Filter Pack (Ft.)	Eley. Bottom of Fifter Pack (Ft. MSL)	Nidpoint Filter Pack Interval
Estroction   0.35.94   0.36.7   56.0   35-55   30.0   0.04.7   21.5   0.10.2   0.04.7   0.0	Well Number	Type	(1.0.0000)			NSP Wells	•				
Water Table         6.34.18         6.34.7         21.5         11.21         9.0         6.25.7         21.5         61.12           Water Table         6.34.85         6.35.1         21.0         10-20         8.0         6.27.1         21.0         614.1         4.0           Water Table         6.34.85         6.35.1         21.0         10-20         8.0         6.27.1         21.0         614.1         4.0           Water Table         6.34.85         6.35.2         16.0         5-15         10         6.32.2         16.0         6.22.2           Water Table         641.03         641.7         15.5         5-15         4.0         6.32.2         6.0         6.14.6           Piczonacher         641.22         641.6         35.0         21-26         19.0         622.6         270.0         641.6         28.5           Piczonacher         633.72         634.2         34.0         21.5         44.49         42.0         592.3         49.0         585.0           Piczonacher         634.33         634.6         76.0         71.76         69.0         465.6         76.0         588.3           Piczonacher         632.60         605.2         48.0	-1-W:	Extraction	635.94	636.7	56.0	35-55		604.7	56.0	850.70	591.7
Water Table         634.85         635.1         21.0         10-20         8.0         627.1         21.0         64.1           Water Table         637.83         638.2         16.0         5-15         3.0         632.2         16.0         622.2           Water Table         641.03         641.7         15.5         5-15         4.0         697.7         15.5         26.2         2           Picrometer         641.02         641.6         35.0         21-26         190         622.6         27.0         641.6         26.2         6           Picrometer         640.98         641.5         35.0         21-26         190         622.6         27.0         641.6         26.3           Picrometer         640.98         641.5         35.0         21-26         190         622.6         27.0         641.6         26.0           Picrometer         633.72         644.2         34.0         315-33.5         30.5         44.49         42.0         392.3         49.0         288.3           Picrometer         644.79         643.2         48.0         423-47.3         40.8         604.1         47.0         288.0           Picrometer         644.20	MW	Water Table	634.18	634.7	21.5	11 - 21	0.0	625.7	21.5	613.2	619-15
Water Table         63783         6882         160         5-15         30         6382         160         622.°           Water Table         64103         6417         155         5-15         40         637.7         15.5         622.2 <td>NW 2</td> <td>Water Table</td> <td>5% P29</td> <td>635.1</td> <td>21.0</td> <td>10 - 20</td> <td>8.0</td> <td>627.1</td> <td>21.0</td> <td>614.1</td> <td>620.6</td>	NW 2	Water Table	5% P29	635.1	21.0	10 - 20	8.0	627.1	21.0	614.1	620.6
Water Table         641.73         641.73         641.73         641.73         641.73         641.73         641.73         641.73         641.73         641.73         641.73         641.73         641.74         15.5         620.2         620.	MW-2	Water Table	034.60	(38.5	16.0	5-15	3.0	635.2	16.0	622.2	628.7
Water Table         641.03         641.7         15.5         5-13         40         607.7         61.0         61.0           Piczonneter         641.02         641.6         35.0         21-26         190         602.6         270         614.6         38.0         21-26         190         602.6         270         614.6         38.0         21-26         190         602.6         270         614.6         38.0         28.5         586         38.0         38.0         38.5         586         38.0         38.5         586         38.0         38.8         38.0         38.3         34.0         31.5-33.5         30.5         603.7         34.0         31.5-33.5         30.5         603.7         34.0         31.5-33.5         30.5         603.7         34.0         31.5-33.5         30.5         603.7         34.0         31.5-33.5         30.5         603.7         34.0         42.3-47.3         30.5         603.7         34.0         42.3-47.3         40.0         42.0         392.3         49.0         588.0         488.3         49.7         42.0         48.0         42.3-47.3         40.8         604.4         47.5         488.0         40.0         40.2         40.0         40.0 <t< td=""><td>MW-3*</td><td>Water Table</td><td>637.83</td><td>638.2</td><td>16.0</td><td>1 - 1</td><td></td><td>7.71</td><td>13.5</td><td>626.2</td><td>\$6.119</td></t<>	MW-3*	Water Table	637.83	638.2	16.0	1 - 1		7.71	13.5	626.2	\$6.119
Ficzonneter         641 22         641 6         35.0         21-26         19.0         6220         20.0         70.0           Prozonneter         640.98         641 5         55.5         50-55         48.0         993.5         35.5         95.6           Waier Table         633.82         634.3         28.5         18-28         16.0         641.8         28.5         605.8           Piczonneter         633.72         634.2         34.0         31.5-33.5         30.5         603.7         34.0         600.2           Piczonneter         633.89         634.3         51.0         44-49         42.0         592.3         49.0         585.3           Piczonneter         634.33         634.6         76.0         71.76         69.0         565.6         76.0         588.6           Piczonneter         644.79         645.2         18.0         3.18         2.5         642.7         18.0         627.2           Piczonneter         612.60         610.6         15.0         5.15         4.5         606.1         15.0         5.15         4.5         606.1         15.0         597.7           Piczonneter         612.60         610.1         35.5	MW-1	Water Table	641.03	641.7	15.5	5-15	4.0	637.7	370	6116	6 × 6
Picconneter         640.98         641.5         55.5         80-35         48.0         593.5         293.5         20.0         200.0           Water Table         633.82         634.3         28.5         18-28         16.0         648.3         28.5         605.8         16.0           Picconneter         633.72         634.2         34.0         31.5-33.5         30.5         603.7         34.0         600.2         14.0           Picconneter         633.89         634.3         51.0         44-49         42.0         592.3         49.0         583.3           Picconneter         634.33         634.6         76.0         71-76         69.0         505.6         76.0         588.6           Picconneter         644.79         645.2         48.0         42.3-47.3         40.8         604.4         47.5         597.7           Picconneter         641.26         610.6         15.0         5-15         4.5         606.1         47.5         597.7           Water Table         612.65         610.1         35.5         30-35         43.0         604.4         47.5         597.7           Water Table         612.60         635.9         16.0         5-15	Vt-MW	Piezometer	641.22	9.119	35.0	21 - 26	0.61	622.6	27.0	207	580 75
Water Table         633.82         634.3         28.5         18.28         16.0         618.3         28.5         mono           Piczonneter         633.72         634.2         34.0         315-33.5         30.5         603.7         34.0         600.2         1           Piczonneter         633.89         634.3         51.0         44.49         42.0         592.3         49.0         585.3           Piczonneter         633.39         634.6         76.0         71.76         690         565.6         76.0         588.6           Piczonneter         634.33         634.6         76.0         3.18         2.5         642.7         118.0         627.2           Piczonneter         644.79         645.2         48.0         42.3-47.3         40.8         604.4         47.5         597.7           Piczonneter         612.60         610.1         15.0         5.15         4.5         606.1         15.0         595.6           Piczonneter         634.42         635.9         16.0         6.16         5.0         606.1         15.0         574.6           Piczonneter         634.62         635.9         50.0         45.50         43.0         592.9 <t< td=""><td>HI-MW</td><td>Piczometer</td><td>640.98</td><td>641.5</td><td>55.5</td><td>50 - 55</td><td>48.0</td><td>\$93.5</td><td>31.0</td><td>0000</td><td>50.50</td></t<>	HI-MW	Piczometer	640.98	641.5	55.5	50 - 55	48.0	\$93.5	31.0	0000	50.50
Piczonneter         633.72         634.2         34.0         31.5-33.5         30.5         603.7         34.0         con.2           Piczonneter         633.89         634.3         51.0         44-49         42.0         592.3         49.0         585.3           Piczonneter         634.38         634.6         76.0         71-76         69.0         565.6         76.0         588.6           Piczonneter         644.88         645.2         18.0         3-18         2.5         642.7         18.0         627.2           Piczonneter         644.79         645.2         48.0         423-47.3         40.8         660.1         15.0         597.7           Piczonneter         612.60         610.6         15.0         5-15         4.5         640.1         15.0         597.4           Piczonneter         634.42         635.9         16.0         6-16         5.0         630.9         16.0         610.9           Piczonneter         634.62         635.9         16.0         6-16         5.0         630.9         16.0         597.4           Piczonneter         637.86         638.3         15.5         5-15         4.0         644.1         15.5 <t< td=""><td>MW-5</td><td>Water Table</td><td>633.82</td><td>634.3</td><td>28.5</td><td>18 - 28</td><td>16.0</td><td>618.3</td><td>28.0</td><td>000.5</td><td>COLUMN DE</td></t<>	MW-5	Water Table	633.82	634.3	28.5	18 - 28	16.0	618.3	28.0	000.5	COLUMN DE
Piczonneter         633.89         634.3         51.0         44-49         42.0         592.3         49.0         58.3           Piczonneter         634.33         634.6         76.0         71-76         69.0         565.6         76.0         586.6           Water Table         644.88         645.2         18.0         3-18         2.5         642.7         18.0         627.2           Piczonneter         644.79         645.2         48.0         42.3-47.3         40.8         604.4         47.5         597.7           Piczonneter         643.25         610.1         35.5         30-35         28.0         582.1         35.5         597.7           Water Table         634.62         633.9         16.0         6-16         5.0         630.9         16.0         619.9           Piczonneter         634.62         633.9         15.0         45-50         43.0         592.9         50.0         585.9           Piczonneter         634.62         638.3         15.5         5-15         4.0         634.9         15.0         585.9           Piczonneter         637.86         638.3         136.5         131-136         128.5         599.84         136.0	MW-5A	Piczometer	633.72	634.2	34.0	31.5 - 33.5	30.5	603.7	34.0	606.2	500.0
Piczometer         634.33         634.6         76.0         71.76         69.0         565.6         76.0         538.6           Water Table         644.88         645.2         18.0         3.18         2.5         642.7         18.0         627.2           Piczonneter         644.79         645.2         48.0         42.3-47.3         40.8         604.4         47.5         597.7           Piczonneter         644.79         645.2         48.0         5-15         4.5         606.1         15.0         595.6           Piczonneter         612.60         610.6         15.0         5-15         4.5         606.1         15.0         597.6           Water Table         634.42         635.9         16.0         6-16         5.0         630.9         16.0         619.9           Water Table         637.98         638.3         15.5         5-15         4.0         630.9         16.0         585.9           Piczonneter         637.80         638.34         136.5         131-136         128.5         509.84         136.0         502.4           Piczonneter         638.00         638.46         21.0         5-20         4.0         634.46         21.0	MW-5B	Piezometer	633.89	634.3	51.0	44 - 49	42.0	592.3	49.0	383.3	300.0
Water Table         641.88         645.2         18.0         3-18         2.5         612.7         18.0         6.72           Prezonneter         644.79         645.2         48.0         423-47.3         40.8         604.4         47.5         597.7           Water Table         612.60         610.6         15.0         5-15         4.5         606.1         15.0         595.6           Prezonneter         613.25         610.1         35.5         30-35         28.0         582.1         35.5         574.6           Prezonneter         634.42         635.9         16.0         6-16         5.0         630.9         16.0         619.9           Prezonneter         634.62         638.3         13.5         5-15         4.0         634.9         50.0         385.9           Prezonneter         637.98         638.3         136.5         131-136         128.5         509.8         15.5         622.8           Prezonneter         638.20         638.46         21.0         5-20         4.0         634.46         21.0         617.46           Prezonneter         638.07         638.31         51.0         5-20         4.0         634.46         21.0	MW-5C	Piczometer	634.33	634.6	76.0	71 - 76	69.0	565.6	76.0	558.6	362.1
Piezometer         644.79         645.2         48.0         42.3-47.3         40.8         604.4         47.5         597.7           Water Table         612.60         610.6         15.0         5-15         4.5         606.1         15.0         595.6           Piezometer         613.25         610.1         35.5         30-35         28.0         582.1         35.5         574.6           Piezometer         634.42         635.9         16.0         6-16         5.0         630.9         16.0         619.9           Piezometer         634.62         635.9         50.0         45-50         43.0         592.9         50.0         585.9           Water Table         637.98         638.3         15.5         5-15         4.0         644.3         15.5         622.8           Piezometer         637.86         638.34         136.5         131-136         128.5         509.84         136.0         502.14           Piezometer         638.20         638.31         51.0         5-20         4.0         634.46         21.0         617.46           Piezometer         638.07         638.31         51.0         5-15         4.0         634.46         21.0	MW-6	Water Table	641.88	645.2	18.0	3 - 18	2.5	6-12.7	18.0	627.2	611.93
Water Table         612.60         610.6         15.0         5-15         4.5         606.1         15.0         595.6           Piczometer         613.25         610.1         35.5         30-35         28.0         582.1         35.5         574.6           Water Table         634.42         635.9         16.0         6-16         5.0         630.9         16.0         619.9           Piczometer         634.62         635.9         50.0         45-50         43.0         592.9         50.0         585.9           Water Table         637.98         638.3         15.5         5-15         4.0         634.3         15.5         622.8           Piczometer         637.86         638.34         136.5         131-136         128.5         509.84         136.0         502.34           Water Table         638.20         638.46         21.0         5-20         4.0         634.46         21.0         617.46           Water Table         638.07         638.31         51.0         45-50         44.0         594.31         50.0         588.31           Water Table         636.13         635.5         15.0         5-15         4.0         632.5         15.0	MW-6A	Piezometer	644.79	645.2	48.0	42.3 - 47.3	40.8	604.4	47.5	597.7	60.160
Piezometer         613.25         610.1         35.5         30-35         28.0         582.1         35.5         574.6           Water Table         634.42         635.9         16.0         6-16         5.0         630.9         16.0         619.9           Piczometer         634.62         635.9         50.0         45-50         43.0         592.9         50.0         585.9           Water Table         637.98         638.3         15.5         5-15         4.0         634.3         15.5         622.8           Piczometer         637.86         638.34         136.5         131-136         128.5         509.84         136.0         502.34           Water Table         638.20         638.46         21.0         5-20         4.0         634.46         21.0         617.46           Piczometer         638.07         638.31         51.0         45-50         44.0         594.31         50.0         588.31           Water Table         636.13         635.5         15.0         5-15         4.0         632.5         15.0         621.5           Water Table         637.09         637.5         15.0         5-15         4.0         633.5         15.0	MW-7	Water Table	612.60	610.6	15.0	5-15	4.5	606.1	15.0	595.6	600.85
Water Table         634.42         635.9         16.0         6-16         5.0         630.9         16.0         619.9           Piczonneler         634.62         635.9         50.0         45-50         43.0         592.9         50.0         585.9           Water Table         637.98         638.3         15.5         5-15         4.0         634.3         15.5         622.8           Piczonneler         637.86         638.34         136.5         131-136         128.5         509.84         136.0         502.14           Water Table         638.20         638.46         21.0         5-20         4.0         634.46         21.0         617.46           Piczonneler         638.07         638.31         51.0         45-50         44.0         594.31         50.0         588.31           Water Table         636.13         635.5         15.0         5-15         4.0         632.5         15.0         621.5           Water Table         637.09         637.5         15.0         5-15         4.0         633.5         15.0         621.5           Water Table         638.83         636.3         22.0         9-19         7.0         629.3         19.0	MW-7/*	Piczometer	613.25	610.1	35.5	30 - 35	28.0	582.1	35.5	9/4.6	076.00
Piezometer         634.62         635.9         50.0         45 - 50         43.0         592.9         50.0         58.9           Water Table         637.98         638.3         15.5         5 - 15         4.0         634.3         15.5         622.8           Piezometer         637.86         638.34         136.5         131 - 136         128.5         509.84         136.0         502.34           Water Table         638.20         638.46         21.0         5 - 20         4.0         634.46         21.0         617.46           Piezometer         638.07         638.31         51.0         45 - 50         44.0         594.31         50.0         588.31           Water Table         636.13         635.5         15.0         5 - 15         4.0         632.5         15.0         621.5           Water Table         637.99         637.5         15.0         5 - 15         4.0         633.5         15.0         622.5           Water Table         635.83         636.3         22.0         9 - 19         7.0         629.3         19.0         617.3	MW-8*	Water Table	634.42	635.9	16.0	6 - 16	5.0	630.9	16.0	619.9	020.4
Water Table         637.98         638.3         15.5         5-15         4.0         634.3         15.5         622.8           Piczonneter         637.86         638.34         136.5         131-136         128.5         509.84         136.0         502.34           Water Table         638.20         638.46         21.0         5-20         4.0         634.46         21.0         617.46           Piczonneter         638.07         638.31         51.0         45-50         44.0         594.31         50.0         588.31           Water Table         636.13         635.5         15.0         5-15         4.0         632.5         15.0         621.5           Water Table         637.09         637.5         15.0         5-15         4.0         633.5         15.0         622.5           Water Table         635.83         636.3         22.0         9-19         7.0         639.3         19.0         617.3	*V8-WM	Piezometer	634.62	635.9	50.0	45 - 50	43.0	592.9	50.0	385.9	307.4
Piezonneter         637.86         638.34         136.5         131-136         128.5         509.84         136.0         202.94           Water Table         638.20         638.46         21.0         5-20         4.0         634.46         21.0         617.46           Piezonneter         638.07         638.31         51.0         45-50         44.0         594.31         50.0         588.31           Water Table         636.13         635.5         15.0         5-15         4.0         632.5         15.0         621.5           Water Table         637.09         637.5         15.0         5-15         4.0         633.5         15.0         622.5           Water Table         635.83         636.3         22.0         9-19         7.0         629.3         19.0         617.3	NIW-9*	Water Table	637.98	638.3	15.5	5-15	1.0	6,141,3	15.5	622.8	027.9
Water Table         638.20         638.46         21.0         5-20         4.0         634.46         21.0         617.46           Piczonneter         638.07         638.31         \$1.0         45-50         44.0         \$94.31         50.0         \$88.31           Water Table         636.13         635.5         15.0         5-15         4.0         632.5         15.0         621.5           Water Table         637.09         637.5         15.0         5-15         4.0         633.5         15.0         622.5           Water Table         635.83         636.3         22.0         9-19         7.0         629.3         19.0         617.3	NW-9A	Piezomeler	637.86	638.34	136.5	131 - 136	128.5	509.84	136.0	502.34	20.00
Piczonneler         638.07         638.31         \$1.0         45-50         44.0         \$94.31         \$0.0         \$88.31           Water Table         636.13         635.5         15.0         5-15         4.0         632.5         15.0         621.5           Water Table         637.09         637.5         15.0         5-15         4.0         633.5         15.0         622.5           Water Table         635.83         636.3         22.0         9-19         7.0         629.3         19.0         617.3	WW-10*	Water Table	638.20	638.46	21.0	5 - 20	4.0	634.46	21.0	617.46	04.C70
Water Table         636.13         635.5         15.0         5-15         4.0         632.5         15.0         621.5           Water Table         637.09         637.5         15.0         5-15         4.0         633.5         15.0         622.5           Water Table         635.83         636.3         22.0         9-19         7.0         629.3         19.0         617.3	WW-10/	Piezometer	638.07	638.31	51.0	45 - 50	44.0	594.31	50.0	588.31	15.166
Water Table         637.09         637.5         15.0         5-15         4.0         633.5         15.0         622.5           Water Table         635.83         636.3         22.0         9-19         7.0         629.3         19.0         617.3	411-WM	Water Table	$\dashv$	635.5	15.0	5-15	4.0	632.5	15.0	621.5	0.00
Water Table 635.83 636.3 22.0 9-19 7.0 629.3 19.0 617.5	MW-12*	Water Table	+	637.5	15.0	5-15	4.0	633.5	15.0	622.5	(2) 2
	+£1-W.I.	Water Table		636.3	22.0	9-19	7.0	629.3	19.0	617.3	020.0

			Summa	Table 1 Summary of Monitor Well and Piczometer Constru	Table 1 r Well and Pi	czometer Co	nstruction			
		Elevation PVC	Elev. Ground	Total Borchole	Screened Interval (Ft.	Depth Top of Filter Pack (Ft.)	Elev. Top of Filter Pack (Ft. MSL)	Depth Bottom of Filter Pack (Ft.)	Elev. Bottom of Filter Pack (Ft. MSL.)	Midpoint Fitter Pack Interval
Well Number	Type	(PE MAL)	(Fit Missey)	for all markets				16.41	San 1	59.1 2
MW-13A	Piezometer	635.94	636.3	50.0	40 - 45	38.0	598.3	46.0	5,00.3	571.5
W-1313	Piezometer	635.90	636.3	70.0	65 - 70	63.0	573.3	70.0	566.3	569 8
WW-14*	Water Table	639.15	639.7	17.0	5 - 15	4.0	635.7	17.0	622.7	629.7
MW-15*	Water Table	641.21	641.6	17.0	5-15	4.0	637.6	15.0	626.6	631.6
MW-16*	Water Table	642.20	642.5	19.0	6-16	5.0	637.5	17.0	625.5	631.5
MW-17*	Water Table	633.88	634.4	17.0	5-15	4.0	629.4	17.0	617.4	623.9
MW-17A*	Piezometer	633.68	634.4	56.0	50 - 55	48.0	586.4	56.0	578.4	582.4
				Kreh	Kreher Park Monitor Wells	tor Wells				
MW-I(NET)	Water Table	608.40	605.6	16.0	4-14	3.0	602.6	16.0	589.6	596.1
MW-2 (NET)	Water Table	608.23	605.3	16.0	3.5 - 13.5	2.5	602.8	16.0	589.3	\$96.05
MW-2A (NET)	Piczometer	607.99	6.05.3	52.0	45 - 50	43.0	362 4	30.0	ונונ	557.8
MW-2B (NET)	Piezometer	608.05	6.05.3	31.0	25-30	22.0	583.3	31.0	574.3	577.8
MW-3 (NET)	Water Table	612.10	609.5	16.0	5-15	4.0	605.5	16.0	593.5	599.5

Notes: \* Reference elevations surveyed by Dames & Moore.

Reference elevations for wells EW-1, MW-3, MW-9, MW-10, MW-10A, MW-11, MW-12, MW-14, and MW-15 surveyed in Sept. 1998.

Reference elevations for wells EW-1, MW-3, MW-16, MW-17, and MW-17A surveyed in August 1999.

Reference elevations for wells MW-8, MW-8A, MW-16, MW-17, and MW-17A surveyed in August 1999.

Survey information for Kreher Park wells are from February 1995 SEH Report

Survey information for Kreher Park wells are from February 1995 SEH Report

Wells MW-1, MW-2, MW-2A, MW-2B, and MW-3 installed by NET in 1989.

ns s	June 2, Depth to Vater (ft.) 16.42 14.60 2.70 5.43 13.67 16.01
	635.43 627.24 632.08
	mater Depth Water 10-47  0 10-47  1-1-00  1-1-00  1-1-00  1-1-00  1-1-00  1-1-00  1-1-00
619.52 619.52 619.19 620.25 635.60 627.55	
1999 Groundwater Elevations W 619.52 619.19 620.25 635.60 635.60	August  Depth to Water (ft.)  10.62  14.34  13.71  2.71  5.07  13.25  15.51

				Su	Table 2 Summary of Groundwater Elevations	Table 2 roundwater k	levations				
	,	Septemb	September 15, 1997	October	October 6, 1998	November 23, 1998	r 23, 1998	June 2, 1999	, 1999	August 23, 1999	23, 1999
Well Number	Casing Elevation	Depth to Water (ft.)	Groundwater Elevations	Depth to Water (ft.)	Groundwater Elevations	Depth to Water (ft.)	Groundwater Elevations	Depth to Water (ft.)	Groundwater Elevations	Depth to Water (ft.)	Groundwater Elevations
1.M-13+	635.83	11.37	624.46	11.54	624.29	6.2.6	626.04	11.17	624.66	1654	625.09
WEI-MW	635.94	20.57	615.37	21.33	614.61	21.38	614.56	20.00	16.519	19.72	616 22
MW-1318	635.90	20.43	615.47	20.59	615.31	20.69	615.21	12.45	623.45	11.90	624.00
+ti-MM	639.15	•	-	5.02	634.13	4.95	634.20	4.37	634.78	3.87	635.28
MW-15+	641.21	1	:	4.24	636.97	4.03	637.18	4.40	636.81	4.31	636,90
MW-16*	642.20	1	1	;	:	•	:	:	:	4.64	637.56
MW-17*	633.88					:	;	;	1	5.91	627.97
MW-17A*	633.68		:	;	;	*	:	:	:	20.031	613.65
					Krcher Pai	Kreher Park Monitor Wells	Vells				
MW-I	608.40	7.57	608.40	7.57	600.83	8.02	600.38	7.56	600.8-1	6.91	601.19
MW-2	608.23	7.37	601.90	7.37	98.009	7.87	600.36	7.41	600.82	6.70	601.53
MW-2A	607.99	-4.26	612.91	-4.26	612.25	-4.31	612.30	-5.32	613.31	-1 (d)	612 59
MW-218	608.05	-2.77	610.16	-2.77	610.82	-2.69	610.74	-2.80	610.85	-2.71	610.76
MW-J	612.10	11.41	612.10	11.41	60.000	11.82	600.28	11.42	600.68	10.61	61.19

Notes:

Reference elevations surveyed by Dames & Moore.
Wells F.W. I. MIW-3, MW-9, MW-10, MW-10A, MW-11, MW-12, MW-14, and MIW-15 surveyed in Sept. 1998.
Wells MW-8, MW-8A, MW-16, MW-17, and MW-17A surveyed in August 1999.
Survey information for Kreher Park wells are from February 1995 SEH Report
Wells MW-1, MW-2, MW-2A, MW-2B, and MW-3 installed by NET in 1989.
Water level in well-still rising; water.
Park Report in Well-still rising; water.

Table 3
Summary of Free Phase Hydrocarbon Thicknesses

Well Lucation	Depth to	ç	October 6, 1998		Nov	November 23, 1998		ľ	June 2, 1999		ny	August 23, 1999	
		Depth to Hydrocarbon	Feet in Well	Feet on	Depth to Hydrocarbon	Feet in	Feet on	Depth to Hydrocarbon	Feet in Well	Feet on	Depth to Hydrucarbon	Feet in Well	Feet on
I-W:I	53.51	11.45	12.06	12.25	40.09	13.42	13.50	35.25	18 26	18.2	T. Pr.	19 20	
MW-7	17.88	(1)	(1)	10.14	· (1)	(3)	10.01	3	3	16.6	3	3	10.1.1
6-MIN	14.62	13.78	0.84	2.73	14.20	0.12	9.6	14.03	0.59	:	1102	-	:
£1-M.I.	14.82	(2)	(2)	(2)	(2)	(2)	(2)	18 10	0.31	2.2	(2)	< 6 inches	< 6 inches
MW-13A	45.33	43.22	2.11	4.73	43.36	1.97	3	43.37	1.96	:	(L)	Ξ	<b>8</b> 5
MW-13B	69.82	43.56	26.26	26.1	43.56	26.26	27.6	52.28	17.54	:	Ξ	3	26
MW-15	15 39	14.78	0.81	2.94	13.93	1.66	2.09	13.26	2.33	2.6	ŝ	3	10.6

(1) Free phase hydrocarbons not detected by interface probe, free-phase hydrocarbons observed on tape.
(2) Product not measured
Hydrocarbon thickness in well is difference between depth to bottom and depth to hydrocarbon/water interface.
Hydrocarbon thickness on tape measure after probe removed from the well.

Table 4
August 1999 Soil Sample Results
Northern States Power, Ashland, Wisconsin

Total SVOCs:		Total VOCs:	Naphthalene		Cvanide, total (distilled) on	Solids	Zinc, total as Zn	Nickel, total as Ni	Lead, total as Pb	Iron, total as Fe	Copper, total as Cu	Chromium, total as C:	Arsenic, total as As		Analyte
ing/kg		µg/kg	yy/gu		mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	Units
ND		ND	<13		<0.045	61.7	ಕ	19	<7.2>	22,000	18	23	5.1>		B-35 8 - 10 ft.
ND	SVOCs	<17>	<17>	VOCs	< 0.035	78	65	24	<10>	31,000	19	12	<1.2	Inorganics	B-36 3-5 ft.
DN		ND	<13		<0.028	90.7	25	10	<6.4>	13,000	10	13	16		B-37 10-12
			700		SN	SN	SN	NS	NS	NS	NS	SN	SNS		RCL 1 Groundwater Pathway
			20.000		NS	SN	NS	NS	11	NS	NS	14	0.039		RCL:
			110.000		SN	SN	SN	SN	500	SN	SN	200	1.6		RCL J Industrial Landuse

NS No standard
< - Less than Limit of Detection, <> - Less than Limit of Quantitation, but greater than Limit of Detection
Concentrations exceeding the Residual Contaminant Level (RCL) for the groundwater pathway or the industrial landuse RCL have been shaded.

Suggested Residual Contaminant Level (RCL) for PAHs based upon protection of groundwater per WDNR interim guidance. Suggested Residual Contaminant Level (RCL) for PAHs for Non-Industrial properties based on protection of human health from direct contact related to land use per WDNR interim guidance, or from Table 2 of NR 720.11 Wisconsin Administrative Code. Suggested Residual Contaminant Level (RCL) for PAHs for Industrial properties based on protection of human health from direct contact related to land use, or from Table 2 of NR 720.09(4) Wisconsin Administrative Code.

Ç,

12-

Table 5 (Page 1 of 6)
August 1999 Groundwater Monitoring Results - VOCs and Inorganics
Northern States Power, Ashland, Wisconsin

					NSP Wells	Vells					
Analyte	Units	I-WIN	NIW-2	MW-2 Dup	NIW-3	F-MIN	AlW-4 Dup	VF-MIN	WF-WW	PAI.	ž
				lnor	Inorganics						
A lice Novel	me/L	.5.4	· 4,4°	<7.5>	<77>	<13>	~1.2	:4.2	.1.2	٠,٠	ž
Alsene, disadvad	11.7/	0.42	· 0.42	<0.42	.4.2	. 0.84	· 1.1 ·	· 0.42	. 0.42	5	9
Chromain, dissolved	110/	0.47	<0.47	<0.47	<4.7	4.1	1.9	< 0.47	<b>-</b>	130	1,300
Colpet, dissolved	- d	× ×	39.000	39,000	9,700	1,600	290	1,500	3,5	150	300
Iron, dissolved	JIE/1.	<u> </u>	<   9>	<1.8>	<u>^14</u>	<1.4	<1.4	<u> </u>	<u> </u>	1.5	15
Lead, dissolved	,,,An	2 /	20.05	×0.6%	\dagger 0 \rangle	<0.93>	<1.5:	99.0.	. 3.0	20	100
Nickel, dissolved	μg/1.	4:1	6.33	2000	200	190	110	20	180	2,500	5,000
Zinc, dissolved	)\g/1.	150	140	20	UV1 L	56	ž	53	<3.2	40	200
Cyanide, total	μg/1.	<3.2	110	07.1	3,100	100	90				
				<u> </u>	VOCs						
Benzene	1/Ձո	<0.11	<0.11	<0.11	1.7	3,600	3,400	14,000	78	0.5	,,
n-Butylbenzene	1/gil	<0.33	< 0.33	<0.33	<0.30	<150	<150	<76	1.5	:	!
sic-Bulvlhenzene	μg/L	<0.27	< 0.27	<0.27	<0.28	<140	<140	<69	<u>^.</u> .4	-	1
Isopropylbenzene	.1/કાા	<0.17	<0.17	<0.17	<0.38>	<140>	<130	<66	<1.3	:	:
n-Isopropylioliene	T/gill	<0.27	< 0.27	<0.27	<0.27	<130	<130	-66	-1.5	;	:
Fibelizene	Jugut.	· 0.24	∙ 0.24	. 0.24		;		-	-	140	) (00)
Nanhthalene	μ <u>μ</u> /1.	<0.23	< 0.23	<0.23	14	6,400	4,600	8,600	35	9	+6
n-Propylbenzene	րք/1.	<0.26	<0.26	<0.26	<0.24>	<100	<100	<52	.1.0		:
Toluene	րե/1.	< 0.16	<0.16	<0.16	0.99	3,200	2,900	9,300		00.0	9.1
1.2.4-Trimethylbenzene	1/gil	<0.25	<0.25	< 0.25	1.8	720	440	540		96	-180 -
1.3.5-Trimethylbenzene	րե/Լ.	<0.25	<0.25	<0.25	<0.68>	490	<280>	<170>	12.2	- !	
Total Trimethylbenzene	.1/કૃત	<0.25	< 0.25	<0.25	2.48	1,210	720	710	14.5		
o-Xylene/Styrene	ից/Լ.	<0.24/<0.22	· 0.24/- 0.22	<0.24/<0.22	<u>6</u>	1,400	1,200	1,500	3 / 1.5	<u>-1</u> -3	0.30
m <sup>1</sup> p-Xylene	Jug/L	<0.47	<0.47	<0.47	<0.96>	2,500	2,000	3,100	10.2		
Xylene, total	μg/l.	-0.24	<0.24	<0.24	2.56	3,900	0,500	4,000	185.6		
Total VOCs:	րե/Լ	N	S	NE	26.71	18,450	0.000	0/14/0			

<sup>&</sup>lt; - Less than Limit of Detection, <> - Less than Limit of Quantitation, but greater than Limit of Detection Concentrations exceeding the ES have been shaded.

Table 5 (Page 2 of 6)
August 1999 Groundwater Monitoring Results - VOCs and Inorganics
Northern States Power, Ashland, Wisconsin

					NSP Wells					
Analyte	Units	NW-5	NIV-5A	MW-SA Dup	NIVY-5B	NW-5C	MW-6	NIW-6.1	PAL.	ES
				Inorganics	S					
Arsenic, dissolved	1/gu	<4.2	<4.2	<4.2	<42	<4.2	<4.2	<4.2	5	ક
Chromium, dissolved	pg/1.	<1.5	<0.42	<0.42	- 4.2	<0.42	1.8	1.7	10	90
Copper, dissolved	1/8/1.	2.1	· 0.76 ·	<0.67>	- 4.7	<u> </u>	9.8	5.6	130	1,300
Iron dissolved	μ./1.	1,000	740	760	100	=	· 3.0 ·	-0-	150	300
Lead, dissolved	FØ1.	٠١.4	-1.4	· 1.4	-	. 2.9 .	· 3.0 ·	.1.7	1.5	7
Nickel, dissolved	με/1.	·1.3>	· 0.69 ·	.0.97~	- 6.6	- 0.66	5.4	3.2	20	100
Zinc, dissolved	μg/l.	160	48	4-	130	39	<12	16	2,500	5,000
Cyanide, total	րք/Լ	<3.2	23	24	55	<3.2	<3.2	<4>	40	200
				VOCs						
Benzene	րթ/ւ	< 78>	14,000	14,000	18,000	1.7	<0.T1	·0.11	0.5	٠,٠
n-Butylbenzene	.1/યા	<130	<870>	<1,200>	<680	<0.34	<0.33	· 0.33	:	:
sec-Butylbenzene	րց/Լ	<110	<280	<280	<560	<0.28	<0.27	< 0.27	:	1
Isopropylbenzene	րց/1.	<b>~67</b>	<250	<250	<500	~0.25	-0.17	. 0.17	:	:
p-Isopropyitoluene	μg/1.	<110	095 <i>&gt;</i>	<560	<1,100	-0.56	-0.27	. 0.27	:	:
Ethylbenzene	1/g#		-	:	•	-	-	:	140	700
Naphthalene	1/84	3,400	3,200	3,100	3,100	0.94	<0.23	< 0.23	000	Ė
n-Propylbenzene	ng/L	<100	<270	<270	<540	<0.27	<0.26	< 0.26	:	:
Toluene	րբ/Լ	<66	1,800	1,800	5,100	<0.50>	-70.16	0.16	68.6	34.5
1,2,4-Trimethylbenzene	1/Ձո	<100	<270	<270	<530	<0.27	<0.25	< 0.25	ş	180
1,3,5-Trimethylbenzene	աջ/L	<100	<270	<270	<540	<0.27	<0.25	<0.25	- <b>-</b>	
Total Trimethylbenzene	ւ լ/Ցոք	<100	<270	<270	<b>&gt;540</b>	<0.27	<0.25	.0.25		
o-Xylene/Styrene	µg/1.	<97	÷470	<470	<950	.0.47	. 0.24	0.24		}
m+p-Xylene	.1/ցո	<190	<670>	<720>	<1,000	<0.50	<0.47	. 0.47	12:	070
Xylene, total	.1/Ցո	<97	<670>	<720>	<950	<0.47	<0.24	<0.24		
Total VOCs:	μg/L	3,478	20,540	20,820	26,200	3.14	N	N		

<sup>&</sup>lt;- Less than Limit of Detection, <>- Less than Limit of Quantitation, but greater than Limit of Detection Concentrations exceeding the ISS have been shaded.

Table 5 (Page 3 of 6)
August 1999 Groundwater Monitoring Results - VOCs and Inorganics
Northern States Power, Ashland, Wisconsin

					NSP Wells					
Analyte	Units	8-ANIV	NIW-8A	MW-9	V6-ANIV	01-ANIV	VOI-MIN	NW-II.	PAI.	Ž.
				Inorganics	ics					
Arsenic, dissolved	µg/L	<4.2	<4.2	<4.2	<4.2	<4.2	<5.2>	·4.2	5	S
Chromium, dissolved	11 <u>17</u> /1.	-70.42	<0.71	<0.84>	< 0.42	<0.42	÷0.42	- 0.42	<u>=</u>	00
Copper, dissolved	μg/1.	3.0	2.9	<0.47	<0.52>	2.9	.0.85.	2.0	70	700
Iron, dissolved	μg/1,	3.9	300	3,000	170	6.1	7.5	7.1	150	300
Lead, dissolved	րց/Լ.	<3.8>	<1.4	<2.3>	<2.6>	<u>^ .4</u>	\2.3\.	<u> </u>	- 1	7 8
Nickel, dissolved	.1/કુમ	2.7	∴	<2.0>	<0.66	<1.6>	<2.2>	<10>	3 :	
Zinc, dissolved	µg/t.	<12	19	<u> </u>	< <u>12</u>	<13	10	. 13	2 500	2 000
Cyanide, total	μg/1.	. 7:-	. 3.2	690	360	· 3.2	. 3.2	17	40	2,000
				VOCs						
Benzene	μg/L	3.7	16,000	65,000	27,000	<0.11	< 0.24	<0.24	0.5	.5
n-Butylbenzene	μ <u>β/1.</u>	<0.34	<680	<660	<660	<0.33	×0.34	· 0.34	:	;
sec-Butylbenzene	µg/L	<0.28	<560	<540	<540	<0.27	-:0.28	· 0.28	:	1
Isopropylbenzene	hg/L	<0.25	<500	<330	<330	<0.17	· 0.25	. 0.25	:	;
p-Isopropylioluene	1/2મ	<0.56	<1,100	<550	<550	<0.27	<0.56	×0.56	!	:
Ethylbenzene	μg/l.		:	3,100	1,700	;	-		÷	700
Naphthalene	µg/L	<0.25	<500	12,000	5,400	<0.67>	<0.25	÷0.25	œ	ā
n-Propylbenzene	μg/L	<0.27	<\$40	<520	<520	<0.26	<0.27	<0.27	:	:
Toluene	1/8/1	<0.24	<570>	13,000	9,600	<0.16	<0.24	<0.24	68.6	343
1,2,4- i rimethylbenzene	μg/1,	<0.27	<530	<510>	<510	<0.25	<0.27	< 0.27		
1,3,5-Trimethylbenzene	Hg/L	<0.27	- 540	<500	- 500	- 0.25	. 0.27	. 0.27	96	180
Total Trimethylbenzene	μg/1.	.0.27	<530	<\$10>	<500	<0.25	· 0.27	· 0.27		
o-Xylene/Styrene	Hg/L	<0.47	<950	<1,400>/<910>	<880>/<460>	<0.24	<0.47	< 0.47		
m+p-Xylene	Jug/L	<0.50	<1,000	<2,900>	<2,000>	<0.47	<0.50	<0.50	12.	620
Xylene, total	µg/L	<0.47	<950	<4,300>	<2,880>	<0.24	<0.47	<0.47		
Total VOCs:	1/git	3.7	16,570	98,820	47,040	<0.67>	UN	N N		

<sup>&</sup>lt; - Less than Limit of Detection, < > - Less than Limit of Quantitation, but greater than Limit of Detection Concentrations exceeding the ES have been shaded.

Table 5 (Page 4 of 6)
August 1999 Groundwater Monitoring Results - VOCs and Inorganics
Northern States Power, Ashland, Wisconsin

				NSP	NSP Wells				
Analyte	Units	NIW-12	TW-13	FI-MIN	NIW-16	NIW-17	NIW-17A	PAI.	ES
			=	Inorganics					
Arsenic, dissolved	μg/L	<4.2	<4.2	<4.2	<4.2	<4.2	×4.2	5	S0
Chromium, dissolved	μg/l.	< 0.42	<0.42	<0.45>	<1,4>	<5.6>	· 8.5·	ē	<u>100</u>
Copper, dissolved	1/8rt	7.6	< 0.47	<0.47	12	<1.3×	<0.47	130	300
Iron, dissolved	μg/L	43	440	22,000	200	120	190	<b>S</b> C	300
Lead, dissolved	μg/l.	<1.6>	<1.4	<1.4	·2.5·	-2.0-	· 2.8.	5	5
Nickel, dissolved	րթ/1.	3.0	<2.3	<0.66	5.7	<0.97>	<1.2×	20	100
Zinc, dissolved	ll/gil	28	<12	110	170	051	<b>~12</b>	2,500	5.000
Cyanide, total	µg/l.	33	110	160	<3.2	<3.2	<3.2	40	200
				VOCs					
Benzene	μg/l.	120	5,600	11,000	0.50	<0.25>	. 0.14	0.5	.5
n-Butylbenzene	Jug/1.	<7.6	<330	<76	<0.33	÷0.33	<0.33	'	:
sec-Butylbenzene	μg/1.	-6.9	<270	<69	<0.27	<0.27	< 0.27	-	;
Isopropylbenzene	րլ։/1.	<6.6	<170	<87>	<0.17	<0.17	< 0.17	:	;
p-Isopropyitoluene	મકુ/L	<6.7	<270	<67	<0.27	<0.27	< 0.27	:	:
Ethylbenzene	1/811		2,300	1	< 0.24	<0.24	<0.24	140	700
Naphthalene	JIg/L	570	9,100	9,000	<0.67>	<0.35>	<0.23>	*	Ė
n-Propylbenzene	μg/L	<5.2	<260	<52	<0.26	<0.26	< 0.26	;	:
Toluene	μg/L	<9.4>	4,200	7,300	<0.25>	<0.26>	<0.16	68.6	343
1,2,4-Trimethylbenzene	րե/լ	<b>~18</b> >	<400>	390	< 0.25	< 0.25	< 0.25		
1,3,5-Trimethylbenzene	րք/1.	<9.8>	<250	<130>	<0.25	<0.25	<0.25	96	480
Total Trimethylbenzene	µg/1.	<27.8>	<400>	520	< 0.25	<0.25	<0.25		
o-Xylene/Styrene	1/gu	<25>	<720>/<220	1,000	<0.24/<0.22	<0.24/<0.22	<0.24/<0.22		
m+p-Xylene	1/grt	34	<1,600>	1,800	<0.47	<0.47	<0.47	151	620
Xylene, total	μg/l.	59	<2,320>	2,800	< 0.24	~0.24	. 0.24		-
Total VOCs:	μg/L	786.2	23,920	30,707	1.42	<0.86>	<0.37>		

<sup>&</sup>lt; - Less than Limit of Detection, <> - Less than Limit of Quantitation, but greater than Limit of Detection Concentrations exceeding the ES have been shaded.

Table 5 (Page 5 of 6)
August 1999 Groundwater Monitoring Results - VOCs and Inorganics
Northern States Power, Ashland, Wisconsin

Total VOCs:	Xylene, total	m+p-Xylene	o-Xylene/Styrene	Total Trimethylbenzene	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	Toluene	n-Propylbenzene	Naphthalene	Ethylbenzene	p-IsopropyItoluene	Isopropylbenzene	sec-Butylbenzene	n-Butylbenzene	Benzene		Cyanide, total	Zinc, dissolved	Nickel, dissolved	Lead, dissolved	Iron, dissolved	Copper, dissolved	Chromium, dissolved	Arsenic, dissolved		Analyte	
μg/L	μg/l.	μg/1,	րք/ե	μg/l.	μμ/1.	րք/Լ	µg/l.	.1/8મ	hg/1.	μg/l,	pg/l.	hg/l.	μg/l.	րք/1.	րե/1.		μg/l.	µg/L	μg/l.	րք/Լ	μg/L	րլ։/1.	Hg/l.	145/1.		Units	
4,022	360	230	<130>	<97>	<b>4</b>	<97>	<65>	<34	1,800	-	<70	<32	<35	<42	1,700		< <b>4</b> >	27	<1.3>	<1.4	1,300	<1.3>	· 0.42	- 4.3		NIV-I (NET)	
894.7	113	60	5.3	·21>	<6.8	<21>	22	<6.7	360	ľ	<14	<6.3	<7.0	<8.7>	370		12	13	4.0	·<2.5>	3,500	2.0	2.1	.4.2	-	NIW-2 (NET)	
1,037	117	62	55	<22>	< 6.8	<22>	22	<6.7	480	;	<14	<6.3	<7.0	<16>	380	VOCs	12	42	3.5	<3.8>	3,500	2.6	2.4	. 4.2	norganics	MNV-2 (NET)Dup	Kreher Park Wells
46.3	<2.2>	<2.2>	<۲.1 >	< 0.67	<0.68	<0.67	13	<0.67	8.9	•	<1.4	< 0.63	<0.70	3.5	17		<3.2	<12	<0.80>	<1.4	53	<0.52>	- 0.4.1 -	. 4.2		NIW-2A(NET)	ırk Wells
43,270	<2,600>	<1,700>	- 900	<340	<340	<330	9,700	<340	9,000		<700	<320	<370>	2,600	19,000		20	<12	<0.1>	F1>	061	<0.47	0.42	- 4.2		(LHN)812-MIV	
12.1	<1.2	<1.2	<1.2	~0.67	89.0>	< 0.67	<0.60	< 0.67	7.4	:	P.U.	< 0.63	<1.4>	3.3	<0.60		<3.2	23	8.6	< 6.6>	190	16	0.61	. 1.1		CLINIC-MIN	
		124			96		68.6	:	8	140	ł	:	:	;	0.5		40	2,500	20	1.5	150	130	10	<u>ب</u>		PAL.	
		620			480		343	:	40	700	:	;	:	:	3		200	5,000	100	15	300	1,300	- - -	š		ES	

<sup>&</sup>lt;- Less than Limit of Detection, <>- Less than Limit of Quantitation, but greater than Limit of Detection Concentrations exceeding the ES have been shaded.

Table 5 (Page 6 of 6)
August 1999 Groundwater Monitoring Results - VOCs and Inorganics
Northern States Power, Ashland, Wisconsin

			Kreher	Kreher Park Wells			
Analyte	Units	AIV-7A	11-W.I.	dag 11-ALL	1.AA.1.5	PAL.	<u> </u>
		l <sub>n</sub>	Inorganics				
Arsenic, dissolved	µg/1.	<42	<4.2	<4.2	<4.2	5	SO
Chromium, dissolved	,1/કાન	<4.2	<0.84>	· 0.42	<0.42	ē	8
Copper, dissolved	,1/કુત	<4.7	<0.47	<0,47	<0.47	130	1.300
Iron, dissolved	րց/1.	011	14,000	14,000	13,000	150	300
Lead, dissolved	րይ/Լ	<14	<2.7>	<2.1>	<2.1>	1.5	5
Nickel, dissolved	րք/Լ	<6.6	<78.0>	<0.96>	<0.66	20	<u>-</u>
Zinc, dissolved	ւլ/Ցո	<120	150	21	26	2,500	5,000
Cyanide, total	μg/1.	<3.2	<3.2	<3.2	<3.2	40	200
			<b>VOCs</b>				
Benzene	.1/શ્વા	2,900	<60	<60	160	0.5	S
n-Butylbenzene	μg/1.	<76	<b>S</b> 8>	<85	<4.2	:	:
sec-Bulylbenzene	րք/1.	<69	<70	<70	<3.5	-	;
Isopropylbenzene	րց/Լ	<66	<63	<63	<3.2	:	:
p-Isopropyltoluene	με/1.	<67	<140	<140	<7.0	1	;
Ethylbenzene	μg/L		-	-	•	140	700
Naphthalene	μg/1.	4,500	4,600	3,900	210	8	÷
n-Propylbenzene	μg/L	<52	<67	<67	< 3.4	1	:
Toluene	μ <u>β</u> /1.	4,600	<60	<60	<3.0		
1,2,4-Trimethylbenzene	μg/1.	360	<061>	<200>	16		
1,3,5-Trimethylbenzene	μig/L	<120>	<68	<68	<3.4	%	480
Total Trimethylbenzene	μg/L	480	<190>	<200>	16		
o-Xylene/Styrene	μg/l.	780	<120	<120	<9.7>		
m+p-Xylene	μg/1.	1,700	<160>	<140>	<7.9>	124	620
Xylene, total	μg/L	2,480	<160>	<140>	<17.6>		
Total VOCs:	1/gri	14,960	4,950	4,240	403.6		

<- Less than Limit of Detection, <>- Less than Limit of Quantitation, but greater than Limit of Detection Concentrations exceeding the ES have been shaded.

# Table 6 (Page 1 of 6) August 1999 Groundwater Results - SVOCs Northern States Power, Ashland, Wisconsin

Total SVOCs:	Pyrene	Phenanthrene	Phenol	Naphthalene	3 & 4-Methylphenol	2-Methylphenol	2-Methylnaphthalene	Indeno (1,2,3-cd) Pyrene	Fluorene	Fluoranthene	Di-n-Butylphthalate	2,4-Dimethylphenol	Dibenzo (a,h) Anthracene	Chrysene	Butyl Benzyl Philialate	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzo(b)fluoranthene	Benzo(a)pyrene	Benzo(a)anthracene	Anthracene	Acenaphthylene	Acenaphthene	Analyte	
µg/L	μg/L	μg/L	µg/L	μg/l.	μg/L	µg/L	μg/L	μϗ/L	μg/L	μg/L	μg/L	µg/L	րք/Լ	μ <u>μ</u> /1.	µg/1.	Ing/I.	μg/L	μg/L	μg/L	μ <sub>B</sub> /1.	μg/L	μg/L	րթ/Լ	Units	
ND	<1.3	<0.68	<0.79	<1.6	<1.6	<1.4	<1.5	<0.72	<u></u>	<0.70	<1.7	<3.2	<0.72	<0.71	÷	<1.2	^I.4	<0.67	<1.3	<0.79	<1.2	<1.4	<1.4	NW-1	
<1.7>	<1.3	<0.65	<0.76	<1.5	<1. <b>5</b>	<b>≙</b> 1.3	^i.4	<0.69	<u>^</u>	<0.67	<1.6	<u>3.</u> 1	<0.69	<0.68	·	~1.2	<1.3	<1.7>	<1.2	<0.76	<1.2	<1.4	<1.3	NIW-2	
<b>△.4</b> >	4.3	<0.65	<0.76	<1.5	<1.5	<1.3	<1.4	<0.69	<b>^1.1</b>	<0.67	<1.6	<3.1	<0.69	<0.68	1.1	<1.2	<1.3	<1.4>	<1.2	<0.76	<1.2	<1.4	<1.3	NIW-2 Dap	
88.4	<3.9>	22	<0.76	14	<1.5	<1.3	<1.4	<0.69	5.9	5.0	<1.6	<3.1	<0.69	<0.68	• 1.1	<1.2	<1.3	<0.64	<1.2	3.1	7.0	<3.5>	24	NIW-3	NSP
5,320	<130	<65	<76	4,500	<150	0£1>	620	69>	011>	<67	<160	<310	<69>	89>	· 110	.120	<130	<64	<120	<76	<120	<140	<200>	F-MIV	NSP Wells
5,070	<130	420	<78	3,900	<150	<130	550	16>	<110	<.69	·170	<320	. <71	<70	- 110	· 120	<140	>66	<120	<78	<120	<140	<200>	dng F-AM	
17,760	<130	<65	700	14,000	770	<280>	1,200	<b>(69</b> )	<110	· 67	<160	<580>	<69	<68	- 110	- 120	<130	<64	<120	<76	<120	<230≻	<130	VP-MIV	
51.6	<1.3	0.65	<0.76	37	<1.5	<1.3	8.2	. 069	1.1	. 0.67	9.1.5	<3.1	<0.69	<0.68	-	· 1.2	<1.3	<0.64	*1.2	-7.6	<1.2	6.4	<1.3	SIF-ANN	
	50	;	1,200	×	:	:	;	:	80	80	20	:	;	0.02	1	;	;	0.02	0.02	;	600	:	:	PA1.	
	250	:	6,000	÷	:	;	:	;	100	00t	100	:	;	0.2	:	:	:	0.2	0.2	:	3,000	;	-	ž.	

<sup>&</sup>lt;- Less than Limit of Detection, <> - Less than Limit of Quantitation, but greater than Limit of Detection Concentrations exceeding the ES have been shaded.

### Table 6 (Page 2 of 6) August 1999 Groundwater Results - SVOCs Northern States Power, Ashland, Wisconsin

					NSP Wells					
Analyte	Units	MW-S	MW-SA	MW-SA Dup	NW-5B	MW-5C	NIW-6	NIW-6A	PAL.	S
Acenaphthene	ા/કાર્ય	230	22	22	<14	<1.7	<1.3	<1.3	:	;
Acenaphthylene	1/તૈમ	<14	15	91	<14	<1.7	<1.4	<u>\.</u>	:	-
Anthracene	1/તેમ	.31	· 1.8 ·	· 1.8.	. 12	· 1.5	. 1.2	- 1.2 -	600	3,000
Benzo(a)anthracene	րլչ/Լ.	<7.9	<0.77	<0.78	<7.8	<0.97	<0.76	~0.76	-	1
Benzo(a)pyrene	7/કામ	<13	<1.2	<1.2	<12	<1.5	<1.2	<1.2	0.02	0.2
Benzo(b)fluoranthene	րք/1.	<6.7	<0.65	<0.65	<6.5	<0.81	<0.64	< 0.82	0.02	0.2
Benzo(k)fluoranthene	μg/L	<14	<4.4	<1.3	<13	<1.7	<1.3	<1.3	:	1
Benzo(g,h,i)perylene	μg/L	<12	·<1.2	<1.2	<12	<1.5	<1.2	<1.2		;
Butyl Benzyl Phthalate	րե/Լ	4	<li>1.1</li>	<1.1	<11	<1.3	<1.1	41.1	;	:
Chrysene	μg/1.	<7.1	<0.69	<0.69	<6.9	<0.86	<:0.68	<0.68	0.02	0.2
Dibenzo (a,h) Anthracene	րց/1.	<23	<0.70	<0.70	<7.0	<0.88	< 0.69	- 0.69		1
2,4-Dimethylphenol	րլչ/Լ	<32	600	550	2,900	<3.9	<3.1	<3.1	:	-
Di-n-Butylphthalate	րք/ե	<17	<1.7	<1.7	<17	<b>-2.</b> 1	<1.6	<1.9>	20	100
Fluoranthene	րլը/1.	39	-1.5>	<1.6>	· 6.8	< 0.85	. 0.67	.1.2 ·	80	.100
Fluorene	μg/1.	-21	£.	<1.1	<u> </u>	<1.4	· 1.1	· 1.1	<b>%</b>	-100
Indeno (1,2,3-cd) Pyrene	µg/1.	<7.2	<0.70	<0.70	<7.0	<0.88	<0.69	<0.69	:	;
2-Methylnaphthalene	μg/l.	250	200	170	<15	- 1.8	~1,4	· 1.1		;
2-Methylphenol	μg/l.	<14	180	210	3,100	<1.7	<1.3	<1.3	:	1
3 & 4-Methylphenol	μв/1.	<16	120	140	3,900	<1.9	<1.5	<1.5	:	:
Naphthalene	μg/1.	1,900	1,900	1,700	390	<2.0	<1.5	<1.5	æ	40
Phenol	μg/l.	<7.9	<0.77	8.3	2,000	<0.97	<0.76	<0.76	1,200	6,000
Phenanthrene	μ <u>υ</u> /1.	120	7.2	7.2	√6.6	· 0.83	. 0.65	0.65	•	!
Pyrene	µg/1.	<31>	<1.3	<1.3	<13	<1.6	<1.3	· 1.3	50	250
Total SVOCs:	лу/L	2,601	3,047.5	2,826.9	12,290	NO.	ND	<5.77>		

< - Less than Limit of Detection, <> - Less than Limit of Quantitation, but greater than Limit of Detection Concentrations exceeding the ES have been shaded.

# Table 6 (Page 3 of 6) August 1999 Groundwater Results - SVOCs Northern States Power, Ashland, Wisconsin

					NSP Wells					
Analyte	(Inits	NIVV-8	VR-ANV	WW-9	AINY-9A	N1V-10	NIVY-10A	NIW-11	PAI.	3
Acenaphthene	1/8મ	7.1>	6.1>	1,800	<140	<1.3	<1.3	<1.3	:	;
Acenaphthylene	.1/શમ	<1.7	9.1>	2,300	<140	<1.4	<1.4	41.4	;	
Anthracene	ા/તૈષ	5.1>	<1.4	1,800	<120	<1.2	<1.2	<1.2	600	3,000
Benzo(a)anthracene	1/તૈમ	<0.97	<0.88	1,100	<78	<0.76	<0.76	<0.76	;	:
Benzo(a)pyrene	1/કાષ	<1.5	<1.4	1,200	<120	<1.2	<1.2	<u>^1.2</u> •	0.02	0.2
Benzo(b)Iluoranthene	1/કાર્ય	18.0>	<0.74	2,300	<65	<0.64	<0.64	< 0.64	0.02	0.2
Benzo(k)fluoranthene	μg/L	<1.7	<1.5	2,300	<130	<1.3	<1.3	<1.3	:	;
Benzo(g,h,i)perylene	μg/L	<1.5	<1.4	2,200	<120	<1.2	<1.2	<1.2	:	1
Butyl Benzyl Phthalate	µg/L	<1.3	<1.2	<220	<110	<1.1	<1.1	<1.1	:	:
Chrysene	μg/L	<0.86	<0.79	1,100	<69	<0.68	<0.68	<0.68	0.02	0.2
Dibenzo (a,h) Anthracene	μg/L	<0.88	<0.80	<140	<70	<0.69	<0.69	<0.69	;	
2,4-Dimethylphenol	րք/Լ	<3.9	210	<630	<310	<3.1	<3.1	<3.1		1
Di-n-Butylphthalate	μg/L	<2.1	<1.9	<330	<170	<1.6	<1.6	<1.6	20	100
Fluoranthene	μg/1.	<0.85	<0.78	1,900	₹68	<0.99 -	<0.99>	<0.99>	80	100
Fluorene	μg/L	<1.4	<1.3	<220	<110	<1.1	<1.1	<1.1	80	400
Indeno (1,2,3-cd) Pyrene	μg/L	<0.88	<b>◇0.8</b> 0	<140	<70	<0.69	<0.69	<0.69	:	:
2-Methylnaphthalene	μg/L	<1.8	<1.7	20,000	<370>	<1.4	<1.4	<1.4	;	;
2-Methylphenol	μg/L	<1.7	210	<270	<130	<1.3	<1.3	<1.3	;	:
3 & 4-Methylphenol	μϗ/Լ.	<1.9	210	<310	<150	<1.5	<1.5	<1.5	;	1
Naphthalene	μg/L	<2.0	110	53,000	4,100	<1.5	<1.5	<1.5	œ	6
Phenoi	μg/1.	<0.97	120	<160	<78	<0.76	<0.76	<0.76	1,200	6,000
Phenanthrene	րք/Լ	<0.83	<0.75	7,000	<68	<0.65	<0.65	. 0.65	:	:
Pyrene	րք/Լ	<1.6	<1.5	2,700	<130	<1.3	<1.3	<1.3	50	250
Total SVOCs:	μg/L	NB NB	860	100,700	4,470	<0.99>	ND	<u>=</u>		

<sup>&</sup>lt; - Less than Limit of Detection, <> - Less than Limit of Quantitation, but greater than Limit of Detection Concentrations exceeding the ES have been shaded.

# Table 6 (Page 4 of 6) August 1999 Groundwater Results - SVOCs Northern States Power, Ashland, Wisconsin

				NSP Wells	Vclls				
Analyte	Units	NIW-12	1.W-13	NIV-14 .	NIW-16	NIW-17	MW-17A	PAL.	ES.
Acenaphthene	1/gո	<21	<020>	1,500	<1.4	<1.3	<1.4		•
Acenaphthylene	1/art	<21	<280	1,600	<1.4	<1.4	<1.4		-
Anthracene	րց/Լ	<18	950	1,700	<1.2	<1.2	<1.2	600	3,000
Benzo(a)anthracene	րց/1.	<12	080	1,700	~0.78	-0.76	0.78	; ;	. 1
Benzo(a)pyrene	րը/1.	. 19	. 250	- 300	1.2	. 1.2	. 1.2	0.02	0.2
Benzo(b)fluoranthene	րք/L	<9.8	<130	<160	<0.66	<0.64	< 0.65	0.02	0.2
Benzo(k)fluoranthene	.1/Ձպ	<20	<270	<320	<1.4	<1.3	<1.3	:	:
Benzo(g,h,i)perylene	րք/Լ	<b>%1</b> >	<240	<290	<1.2	<1.2	<1.2	1	:
Butyl Benzyl Phthalate	1/Ցո	<16	<220	<260	<1.1	<1.1	<1.1	:	:
Chrysene	րք/Լ	<10	800	<170	<0.70	<0.68	<0.69	0.02	0.2
Dibenzo (a,h) Anthracene	րց/Լ	<11	<140	<170	<0.71	<0.69	. 0.70	1	1
2,4-Dimethylphenol	րց/Լ	<47	<630	<1,800>	ن د د د	<u>ئ.</u>	<b>3.</b> 1	:	<u> </u>
Di-n-Butylphthalate	μg/Ι.	<25	<330	<400	<1.7	<1.6	<1.7	20	<u>e</u>
Fluoranthene	րք/Լ	<10	750	1,200	<0.69	<0.67	<0.68	80	400
Fluorene	րք/Լ	<17	<220	1,100	<u>^</u> :	<u>^</u>	<u>^</u> _	80	400
Indeno (1,2,3-cd) Pyrene	րք/Լ.	<u> </u>	<140	<170	<0.71	<0.69	- 0.70		
2-Methylnaphthalene	րթ/Լ.	83	1,900	2,700	<1.5	<1.4	< 1.5	:	:
2-Methylphenol	μg/L	<20	<270	1,400	<1.3	<1.3	<1.3	:	:
3 & 4-Methylphenol	1/કામ	<23	<310	2,400	<1.5	<1.5	<1.5	;	:
Naphthalene	րք/Լ	230	14,000	9,100	<1.6	<1.5	1.6	æ	40
Phenol	μg/L ˙	<12	<160	<190	<0.78	<0.76	<0.78	1,200	6,000
Phenanthrene	րք/ե	99	1,300	1,400	<0.67	<0.65	<0.66	1	:
Pyrene	րք/Լ	<20	<460>	1,200	<1.3	<b>4.3</b>	<1.3	SO	250
Total SVOCs:	μg/L	379	21,490	28,800	N	ND	ND		

<sup>&</sup>lt;- Less than Limit of Detection, <>- Less than Limit of Quantitation, but greater than Limit of Detection Concentrations exceeding the ES have been shaded.

# Table 6 (Page 5 of 6) August 1999 Groundwater Results - SVOCs Northern States Power, Ashland, Wisconsin

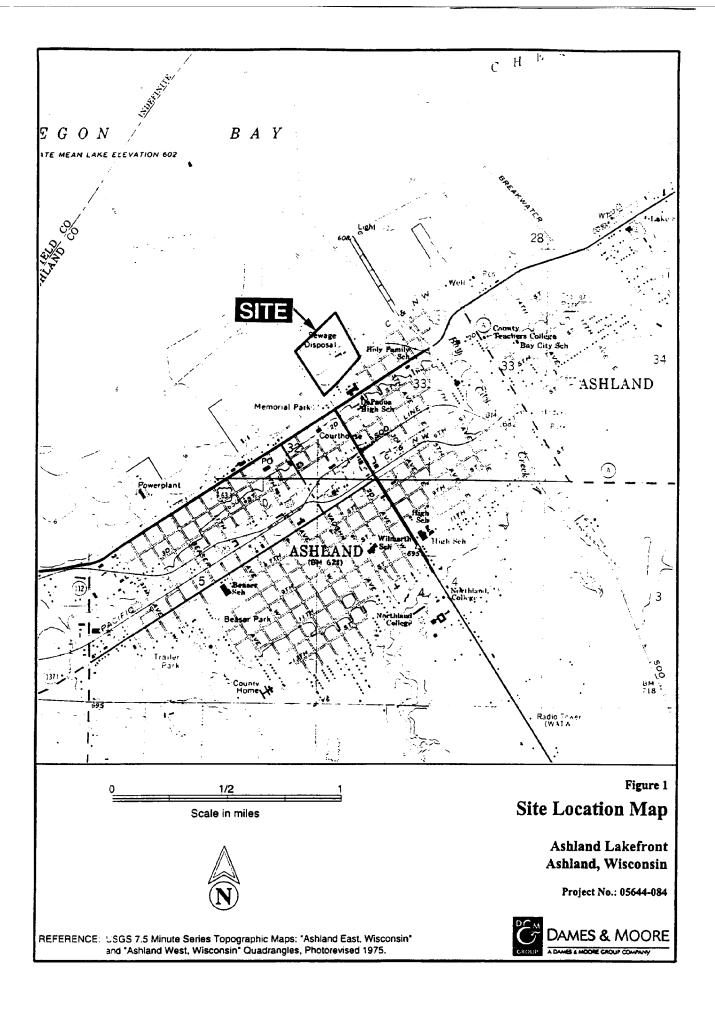
Total	Pyrene	Phenanthrene	Phenol	Naphthalene	3 & 4-Methylphenol	2-Methylphenol	2-Methylnaphthalene	Indeno (1,2,3-cd) Pyrene	Fluorene	Phoranthene	Di-n-Butylphthalate	2,4-Dimethylphenol	Dibenzo (a,h) Anthracene	Chrysene	Butyl Benzył Phthalate	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzo(b)fluoranthene	Benzo(a)pyrene	Benzo(a)anthracene	Anthracene	Acenaphthylene	Acenaphthene	Analyte	
Total SVOCs:				!																					
μg/L	դ <sub>հ</sub> ր	μg/L	μg/L	μg/l.	րը/1.	1/8rt	µg/L	րք/ե	րլջ/Լ	րք/Լ	րք/1.	րв/1.	µg/l.	րք/1.	μg/L	րք/Լ	μg/I.	μg/L	μg/L	րք/L	րբ/ե	րե/Լ	μg/L	Units	
3,130	<260	900	<160	1,200	· 310	<270	<530>	<140	<220	<140	<330	<630	<140	<140	<220	<240	<270	<130	<250	<160	<240	<280	<500>	NW-1 (NET)	
1,098	<13	55	<7.8	310	- 15	<13	69	<7.0	<u>^</u>	51	.17	43.1	<7.0	78	<u></u>	75	78	92	<b>SC</b>	73	<12	63	66	NIW-2(NET)	
567	52	<6.5	<7.6	310	÷15	<13	67	<6.9	<u>-</u>	<6.7	<16	<u>\$</u> 1	<6.9	<6.8	<u></u>	71	75	89	84	71	<12	61	64	MW-2(NET) Dup	Kreher Park Wells
ND	<1.3	<0.67	<0.78	<1.6	• 1.5	<1.3	<1.5	<0.71	<u>^-</u>	<0.69	- 1.7	<3.2	<0.71	<0.70	<u>^-</u>	<1.2	<1.4	<0.66	<1.2	<0.78	<1.2	<1.4	<1.4	NIW-2A(NET)	rk Wells
5,700	<130	<67	<78	3,500	7.10	<400>	<300>	<71	<110	<69	· 170	<760>-	اراً ا	<70	<110	<120	<140	<66	<120	<78	<120	<140	<140	MW-2B(NET)	
2,483	470	150	<20	140	30	-26	<29	<u>^1</u>	93	240	- 20	-62	^1	240	-\$1	150	170	190	200	<15	170	130	140	NIW-3(NET)	
_	50	:	1,200	œ	;	:	;	:	80	80	20	:	;	0.02		1	;	0.02	0.02	!	600	1	:	PAI.	
	250	:	6,000	ė	,	:	:	1	400	001	100	-	;	0.2	;	;	;	0.2	0.2	1	3,000	:	<u>:</u>	Ø	

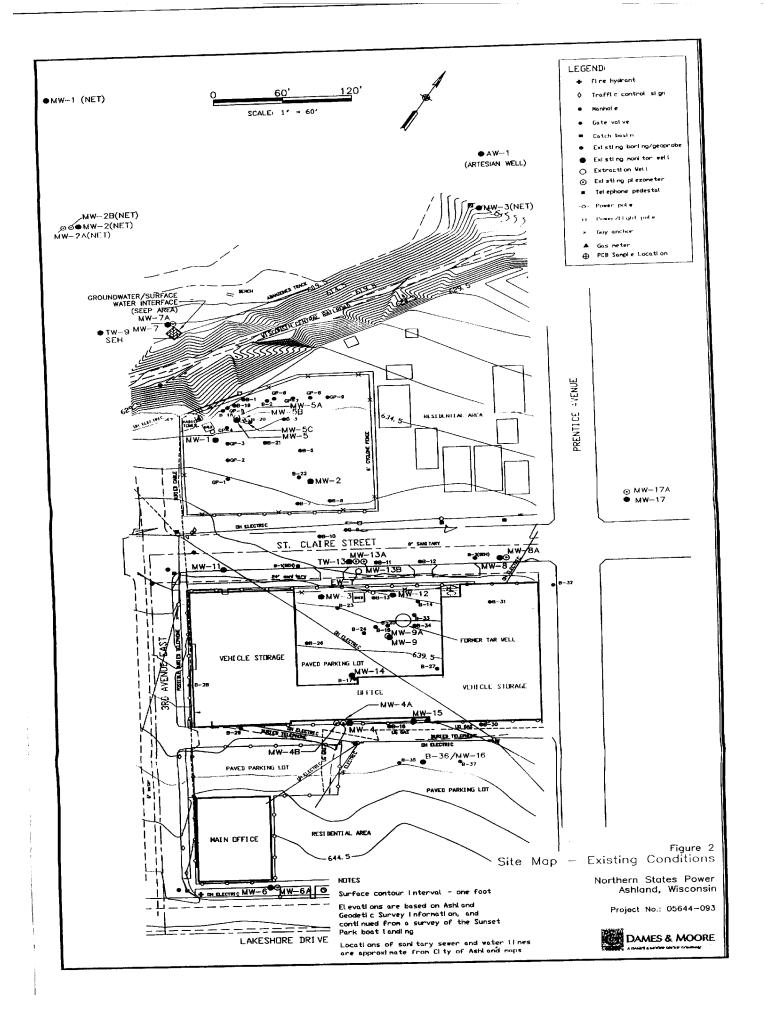
<sup>&</sup>lt;- Less than Limit of Detection, <>- Less than Limit of Quantitation, but greater than Limit of Detection Concentrations exceeding the ES have been shaded.

Table 6 (Page 6 of 6)
August 1999Groundwater Results - SVOCs
Northern States Power, Ashland, Wisconsin

		138.6	15,180	7,240	6,430	րք/Լ	Total SVOCs:
250	50	<1.3	780	250	<130	µg/L	Pyrene
;	:	<0.67	2,200	480	<b>65</b>	1/811	Phenanthrene
6,000	1,200	3.6	<15	<20	<76	հե/ր	Phenol
40	000	120	2,200	480	5,500	μg/1.	Naphthalene
,	:	<1.5	<30	<20	<150	μg/L	4-Methylphenol
1	:	413	<26	<26	<130	μg/L	2-Methylphenol
:	:	<1.5	3,900	1,500	720	րք/1.	2-Methylnaphthalene
	;	<0.71	<14	<20	<69	μϗ/L	Indeno (1,2,3-cd) Pyrene
è	S	4.1	770	190	<110	μg/L	Fluorene
400	80	<0.69	600	200	<67	μ <b>ይ/</b> Ι.	Fluoranthene
100	20	<1.7	<33	<20	<160	μg/L	Di-n-Butylphthalate
!	!	<3.2	<62	<62	<310	րք/Լ	2,4-Dimethylphenol
:	!	₹ 0.71	<u> </u>	<20	· 69	րթ/ե	Dibenzo (a,h) Anthracene
0.3	0.02	<0.70	300	180	<68	μυ/1.	Chrysene
	:	<21	<2I	<20	<110	μg/L	Butyl Benzyl Phthalate
:	:	<1.2	150	<b>23</b>	<120	րց/Լ	Benzo(g,h,i)perylene
:	:	<1.4	200	160	<130	μg/L	Benzo(k)fluoranthene
0.2	0.02	<0.66	210	<180	<64	μg/L	Benzo(b)fluoranthene
3	0.02	<1.2	240	180	<120	ug/L	Benzo(a)pyrene
:	;	<0.78	<15	<15	<76	μg/L	Benzo(a)anthracene
3,000	99	<1.2	710	240	<120	րв/1.	Anthracene
:	!	<1.4	220	140	<210>	μg/L	Acenaphthylene
:	:	15	2,200	540	<130	րք/L	Acenaphthene
23	PAI.	TW-12	dag 11-AAL	11-ALL	NIW-7A	Units	Analyte
			rk Wells	Kreher Park Wells			

< - Less than Limit of Detection, <> - Less than Limit of Quantitation, but greater than Limit of Detection Concentrations exceeding the ES have been shaded.





.

•

- .

#### APPENDIX A

SOIL BORING LOGS, WELL CONSTRUCTION,
WELL DEVELOPMENT, AND BOREHOLE ABANDONMENT FORMS
FOR B-35, B-36/MW-16, B-37, MW-17, AND MW-17A

Page 1 of 2   Page 1 of 2   Page 1 of 2	E
Wastewater   Water Resources   Page 1 of 2	E
Emergency Response   Other   Page 1 of 2	E
Boring Drilled By (Firm name and name of crew or effecting Date Drilling Started Boart Longyear - Ryan Fischer   Date Drilling Started   Date Drilling Method   Date Drilling	E
Northern States Power  Boring Drilled By (Firm name and name of crew cheft Boart Longyear - Ryan Fischer  Date Drilling Started OB / 24 / 99	E
Boring Drilled By (Firm_name and name of crewich effective proof of the proof of th	E
Boart Longyear - Ryan Fischer  MM DD YY MM DD YY 2 1/4" ID HS  DNR Facility Well No.	E
DNR Facility Well No.   WI Unique Well No.   Common Well Name   Final Static Water Level   Surface Elevation   Borehole Diameter   Feet MSL   Feet MSL   8.3   Inches	E
Feet MSL Feet MSL 8.3 inches	_
	_
	_
State Plane	<u></u>
SVV         1/4 of NVV         1/4 of Section         33         - 48         N. R         4         E         Long         —         Feet         D           County         DNR County Code         Civil Town / City / or Village	
Ashland 0 2 City of Ashland	
Sample (M) Slow Counts (M) Slow Counts (M) Soil/Rock Description And Geologic Origin For Each Major Unit  Soil/Rock Description And Geologic Origin For Each Major Unit  Soil/Rock Description And Geologic Origin For Each Major Unit  Soil/Rock Description And Geologic Origin For Each Major Unit	
Number    Feedury   Feedury   Feedury	
Number Standard Constitution Co	
Each Major Unit	
Topcoil dark brown clavey loam with little	
12	
CLAY, some s.rt. trace sand, trace gravel,	
moist, stiff, low plasticity, reddish brown	
2 14 52 2 3	
3 22 3 - 5 7	
3   22   45   1   1   1   1   1   1   1   1   1	
Very stiff below 6 feet	•
4 40 73 1	
4   19   8 10   16     16	
5 20 10.9	
5   20   10,12   9	
6 24 5.7 CLAY, some siit, little sand, little gravel, CL	
Still, low plasticity, slightly moist,	
reddish brown	
7 22 15.20 As above - dry to slightly moist	
As above - dry to slightly moist CL	
I hereby certify that the information on this form is true and correct to the best of my knowledge.	
Signature Mah L M Selloch Firm Dames & Moore, Madison, WI	

This form is authorized by Chapters 144.147 and 162. Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than \$10 nor more than \$4,000 for each violation. Fines not less than \$10 or more than \$100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06. Wis. Stats

#### WELL/DRILLHOLE/BOREHOLE ABANDONMENT Form 3300-58 Rev. 8-89

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(I) GENERAL INFORMATION	(2) FACILITY NAME
Well/Drillhole/Borehole County  Docation B-35  Ashland	Onginal Well Owner (Li Known)  Northern State Power
5 <u>W</u> 1/4 of <u>NW</u> 1/4 of Sec. 33 : T. 48 N. R. 4	Present Well Owner States Power
Gov't Lot Grid Number	Screet or Route 301 Lake Share Drive East
Grid Location	City, State, Zip Code Ash land, WI 54806
Ashland	Northern States Power (II Applicable) WI Unique Well No.
301 Lake Share Drive East	Reason For Abandonment Soil Boving
City, Village Ash land, WI	Daze of Abandonment 8 · 24 · 99
WELL/DRILLHOLE/BOREHOLE INFORMATION	
(3) Criginal Well/Drillhole/Borehole Construction Completed On  Date) 8-24-59	(4) Depth to Water (Feet)   Pump & Piping Removed?   Yes   No Not Applicable   Liner(s) Removed?   Yes   No Not Applicable
☐ Monitoring Well ☐ Water Well ☐ Drillhole ☐ Borehole ☐ Construction Report Available? ☐ Yes ☑ No	Screen Removed?  Casing Left in Place?  If No, Explain  On 1500
Construction Type:  Drilled Driven (Sandpoint) Dug  Other (Specify)	Was Casing Cut Off Below Surface?  Did Sealing Material Rise to Surface?  Did Material Settle After 24 Hours?  If Yes, Was Hole Retopped?  Yes No
Formation Type:  Unconsolidated Formation  Bedrock	(5) Required Method of Placing Seating Material  Conductor Pipe Gravity Conductor Pipe-Pumped  Dump Bailer Other (Explain)
Total Well Depth (ft.) 18 Casing Diameter (ins.)	(6) Sealing Materials For monitoring wells and  Neat Cement Grout monitoring well boreholes only  Sand-Cement (Concrete) Grout
Casing Depth (ft.)	Concrete Bentonite Pellets  Clay-Sand Slurry  Defranular Bentonite
Was Well Annular Space Grouted? Yes No Unknown If Yes, To What Depth? Feet	☐ Bentonite-Sand Slurry ☐ Bentonite - Cement Grout ☐ Chipped Bentonite
(7) Sealing Material Used	From (Ft.) To (Ft.) Sacks Sealant or Volume Mix Ratio or Mud Weight
36" Huleplag-ahapad bentarite	Surface 18 3 50 16, bogs
(8) Comments:	
9) Name of Person or Firm Doing Sealing Work Booth Longgar / Dames 1 Moore	(10) FOR DNR OR COUNTY USE ONLY Date Received/Inspected District/County
Signature of Person Doing Work    Substantial Wallands   B. 24-99	Reviewer/Inspector
Street or Route 25 Kessel Work Cort. Set 201 (600) 273-2886	Follow-up Necessary
City. State, Zip Code Machison, WI 53711	1 A 12 8 8 9 4 5 10 Aur

State of Wisconsin
Department of Natural Resources

#### SOIL BORING LOG INFORMATION SUPPLEMENT

Form 4400-122A

7-91

Boring Number B-35  Sample (N) Page 2  Soil/Rock Description And Geologic Origin For County Number County I multiplication Feet Major Unit  Noisture Conferd Moisture Fach Major Unit  Significant Penetration Passic Fund Pas	P 200
Soil/Rock Description And Geologic Origin For an andard and an effection on sture orient a sasticular and an angain an angain an	P 200
Each Major Unit	1
8 12 20 CLAY, some silt, little gravel, dry hard low plasticity, slightly moist, reddish brown 50+	
9 24 25.28 17 CLAY, some silt, little sand, little gravel, hard, low plasticity, slightly moist, reddish brown CL 45	
EOB @ 18 ft.  Backfilled borehole with 3 - 50 lb bags of hole plug  21  22  23  24  25  27  28  29  29  29  30  31  31  32  33  31  33  34  35  36  37  38  38  39  30  31  31  32  33  34  35  36  37  38  39  30  30  31  31  32  33  34  35  36  37  38  38  39  30  30  31  31  32  33  34  35  36  37  38  38  39  30  30  31  32  33  34  35  36  37  38  38  39  30  30  31  31  32  33  34  35  36  37  38  38  39  30  30  30  31  31  32  33  34  35  36  37  38  38  39  30  30  30  30  31  31  32  33  34  35  36  37  38  38  38  38  38  38  38  38  38	

State of Wisconsin Department of Natural Resources Route To								144				BORI orm 440		OG IN	NFOR	MAT		7-91
					Solid Waste		☐ Haz ☐ Und			ks								
					Wastewater		☐ Wat		ources								2	
					Emergency Re	esponse	Othe									e _1_ of _2_		
Facil	ity / Pro	ject Na	me Nort	hem States P	ower		License/Permit/Monitoring Number				_   "	Boring Number B-36 / MW-16						
Borin	g Drille	d By (F	irm name	and name of crew	chief)				Starte			Drilling	Comple 23	ted 99		Drilling Method 2 1/41 ID HSA TO 17		
	(	3oart	Longye	ear - Ryan Fis	r - Ryan Fischer			$\frac{08}{MM} / \frac{23}{DD} / \frac{99}{YY}$				MM / DD / YY					W CEL	
DNR	Facility	Well N	lo. W	I U- sue Well No.				Final Static Water Level				Surface Elevation				Borenoie Elameter		
							<u> </u>	CL	eet M	SL	1000	Ceid Le	Feet MSL 8.3 -ches				5	
State	g Loca Plane	-		N		/C/N	La	t	ĊL	_	1			N	zacie,			E
SW	1/4 (	<sub>r</sub> NV	V 1/4 of 5	Section <u>33</u>	T 48 N. R	ONR Count	I Long	•	Cod To		City / cr V	Fe	et 🗖	S		F6	et 🗆	W
Coun	-	shlan	d			ONK Coding	2	- }	C.VII T		City of	-	nd					
Samp		_						[ · · · ·					Soil Pr	opertie:	5		<u>.</u>	
	(N)	Blow Counts (N)	eet	Soil/Ro	ock Descri	ption			Log	Mell Diagram		L CO					ROU/Comments	
Number	III overe	Cour	Depth in Feet	And Ged	ologic Orig	gin For		nscs	Graphic Log	II Dia	PID/FID	Standard Penetration	Moisture Content	Limit	Plastic Limit	P 200	1)/Cu	
Ž	Length Recovered (N)	Blow	Depti	Eac	h Major U	nit 		ŝn	ä	*	<u> </u>	્રેટ <b>ક</b>	≥ 3	35	골드	ď	8	
			Ē	Asphalt 0-3* g	gravel sub-ba	se												
			E'	S.LT. some s			ML											
1	16	1 2 2.3	_ 2	moist, non-plastic, firm reddish brown CLAY, some silt, trace gravel, little sand			slightly	CL-		1	4.4	4						
			<b>1</b> 3	maist, soft, firm prown	ı. low to non-	plastic, reddis	sh	ML										
2	12	2.3 4.5	Ē,	CLAY, some sit moist, firm, low			lightly	CL			8.5	7						
		4,5		S.LT, trace cl c astic, reddis		oist, firm, non		ML										
			5	C: AY some	silt, trace san	d. trace grave	el. verv											
3	22	3,4 4,4	6		sticity, reddis			CL				8						
			7															
4	22	8.9	E.		silt, trace san							19						
7	22	10,12	•	moist, low pia	islicity, still, it	Eddisit blown												
			9															
			F									7						
5	22	3,3 4,5	10	As above - fir	m to sun							′						
			11															
			E															
6	23	10,12 13,15										25						
				moist, very stiff	AY, some silt, some sand, little grave :st, very stiff, low plasticity, reddish b													
7	17	8,10	13															
	''	13,12		arion on this form is				<u> </u>			L	23	<u> </u>		<u> </u>	<u> </u>	<u> </u>	

This form is authorized by Chapters 144.147 and 182, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than \$10 nor more than \$4,000 for each violation. Fines not less than \$10 or more than \$100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats

Firm

Dames & Moore, Madison, WI

Signature / Mech

State of Wisconsin Department of Natural Resources

#### SOIL BORING LOG INFORMATION SUPPLEMENT Form 4400-122A 7-91

7-91

			ral Resou -36/ <u>MV</u>		Form	4400	-122A	i				age 2		7-91 2
Sam	pie				1	T				Soil Pro			or_	
Number	Length Recovered (N)	Blow Counts (N)	l Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	nscs	Graphic Log	Well Diagram	OFFICE	Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	ROD/Comments
			15	CLAY, some siit, some sand, little gravel, slightly moist, very stiff, low plasticity, reddish brown										
8	24	10,13 17,18							30					
9	24	13,14 16,17	17 - 18						30					
			19 .	EOB @ 19 ft.										
			21	Set well MW-16 @ 16 ft.										
			22											
			_ 			į								
			25 26											
			27											
			28 28 29			- 4								
			30	·										
			31											
			32 - - 33									i		
			34											
			35											

Pepartment of Natural Resources   Exacility Project Name   NSP-Ashland    Facility License, Permit or Monitoring Num  Type of Well   Water Table Observation Well Piczometer    Distance Well Is From Waste/Source Bound   S Well A Point of Enforcement Std. Applied   Yes	nber /ell 111   12 dary cation?	Local Grid Location of Weight. DN. DS.  Grid Origin Location Lat. St. Plane  Section Location of Waste/ SW1/4 of NW1/4 of Sec. Decation of Well Relative	Long	E. W.	Well Name   MW-16		mber
NSP-Ashland Facility License, Permit or Monitoring Nun Type of Well Water Table Observation W Piczometer  Distance Well Is From Waste/Source Bounce Is Well A Point of Enforcement Std. Applic	riber  /ell 111   12  dary  cation?	ft. N. S.  Grid Origin Location Lat. St. Plane  Section Location of Waste/ SW1/4 of NW1/4 of Sec. 3  Location of Well Relative	Long	W.	MW-16  Wis. Unique Well Number: DN  Date Weil Installed		mber
Type of Well Water Table Observation W Piczometer  Distance Well Is From Waste/Source Bound Is Well A Point of Enforcement Std. Applie	dary	Lat. St. Plane  Section Location of Waste/ SW1/4 of NW1/4 of Sec. 3 Location of Well Relative	Source		Date Weil Installed		maber
Piczometer  Distance Well Is From Waste/Source Bound Is Well A Point of Enforcement Std. Applic	dary cation?	Section Location of Waste/ SW1/4 of NW1/4 of Sec. 3 Location of Well Relative	Source		Date Weit Installed		
Is Well A Point of Enforcement Std. Applic	cation?	SW1/4 of NW1/4 of Sec. 2 Location of Well Relative				- <del>v</del> <del>v</del>	
• •	cation?	Location of Well Relative		■ E □ W	Well Installed By: (Person's Name and Fir		
	I	u D Ungradient d D Downgradient	to Waste/Source	dient	Ryan Fischer  Boart Longyear		_
A. Protective pipe, top elevation 6 4			<u> </u>	Cap and		Yes 🗆 No	io.
B. Well casing, top elevation 6 4	2. 20 ft.	MSL -	2		ve cover pipe: e diameter:	9_0_ii	i
C. Land surface elevation 6 4	2, 5 ft.	MSL		b. Leng	th:	$-\frac{1}{0}$	ft.
D. Surface seal, bottom 6 4 1 . 5 ft		\:\:\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	🗶 /	c Mate	rial:	Steel 0 0	0 4
				d Addi		Other 🗏 🗓 I Yes 🖫 N	
12. USCS classification of soil near screen					describe		•0
SM O SC O ML O MH O			] <u>                                    </u>	Surface	seal: Ben	itonite 🗆 3	3 0
Bedrock 🗆						ncrete 📕 0	
13 Sieve analysis attached?   □ Yes	■ No		+ $+$ $+$ $+$ $+$ $+$	Materia	between well casing and protective pipe:	Other 🗀 📙	<u> </u>
			1 11 7	Stateria		ntonite 🗆 3	3 0
	Rotary 🗆 5		1 11		Annular Space		
Hollow Stem			1 11		sand	Other	
15. Drilling fluid used: Water 0 2 Drilling Mud 0 3	Air □ 0		<del> </del>		ular space seal: a. Granular Bent		
Drining Nied 11 6 3	None = 9	,			Lbs/gal mud weight Bentonite-sand : Lbs/gal mud weight Bentonite		
16 Drilling additives used?    Yes	■ N	0	1 11		<sup>2</sup> Bentonite Bentonite-cement		
Describe:		į į	1 1		bs Ft' volume added for any of the above		
Describe.		<del></del>		1. Flow		remie 🗀 0 mped 🗀 0	
17. Source of water (attached analysis).						iravity <b>=</b> 0	
			1 1 / 6	Bentoni			
					1.'4 in. ■ 3.'8 in. □ 1.'2 in. Bentonite p Hole plug		
E. Bentonite seal, top $\underline{}$ 6 4 1 5 ft.	MSL or	<u>1.0</u> ft	/		d material: Manufacturer, product name & n		
F Fine sand, top 6 3 8 5 ft	MSL or	4.0 ft.		a	BB ≠7	_	
G. Filter pack, top 6 3 7 5 ft.					me added 50 lbs		
				aR	ck material: Manufacturer, product name & ed Flint #30	_	
H. Screen joint, top 6 3 6 5 ft ?				b. Volu Well cas	me added 400 lbs	ule 40 ■ 2	2 3
1. Well bottom					Flush threaded PVC schedu		2 4
J. Filter pack, bottom $\underline{} \underline{} \phantom{a$	MSL or	7.0 ft	10	. Screen	material: PVC sched, 40		
K. Borehole, bottom $\underline{}$ 6 2 3 . 5 ft		<u>9.0</u> ft		a. Scre		•	1
L. Borehole, diameter8 , 3_ in				b. Man	ufacturer Northern Air	Other 🗆 🛄	
M. O.D. well casing $\frac{2}{3} \cdot \frac{3}{8}$ in	1.			c. Slot d. Slott	siz <b>e</b> ed length:	0. <u>0 1 0</u> . 0	
N. I.D. well casing $\frac{2}{2} \cdot \frac{0}{5}$ in	1.		` 1		•	None □ I Other <b>■</b> ⊡	
Therefore a the state of the st		i					<b>=</b>
I hereby certify that the information Signature Mark & MS Colland		Firm Dames	t to the best of h	y know	reage.		

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch. 144, Wis. Stats., failure to file this form may result in a forfeiture of not less than \$10, nor more than \$5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation. NOTE: shaded areas are for DNR use only. See instruction for more information including where the completed form should be sent.

State of Wisconsin Department of Natural Resources		olid Waste □ ise & Repair □	Haz. Waste □ Wastewater □ Underground Tanks □ Other □		MONITORING W Form 4400-113B	ELL CONSTRUCTION Rev: 4-90
Facility/Project Name NSP - Ashland		County Name	Ashland	Well Name	* MW-16	
Facility License, Permit or Monitoring N	umber	County Code 0 2	. Wis. Unique Well Number		DNR Well Number	
	<u> </u>					
1. Can this well be purged dry?		Yes 🗆 No	N. D. d. W. es		Before Development	
Well development method			11. Depth to Water (from top of we	en casing)	a. <u>5</u> . <u>0</u> <u>0</u> ft.	4.64ft.
surged with bailer and bailed surged with bailer and pumped surged with block and bailed		14 l 16 l 14 2	Date		b. $\frac{0}{m} \frac{8}{m} / \frac{2}{d} \frac{4}{d} / \frac{9}{y} \frac{9}{y}$	$\frac{0 8}{m m} \frac{2 8}{d d} \frac{9}{y} \frac{9}{y}$
surged with block and pumped surged with block, bailed and pump compressed air bailer only	æd □ □	162 170 120 110	Time		c. <u>0 5</u> : <u>0 0</u> ■ p.m.	
pumped only pumped slowly Other		15 0 1	12. Sediment in well bottom		inches	inches
3. Time spent developing well	_	2 2 5 min.	13. Water clarity		Clear □ 1 0 Turbid ■ 1 5	Clear □ 2 0 Turbid ■ 2 5
4. Depth of well (from top of well casing)	_	<u>1 5. 7</u> ft.			(Describe)	(Describe) same
5. Inside diameter of well	-	2 . <u>0 5</u> in.			Red-brown, high turbidity	
6. Volume of waters in filter pack and we casing		<u>9</u> . <u>5</u> gal.				
7. Volume of water removed from well	_	4 8 . Ogal.	Fill in if drilling fluids were used and	d well is at so	olid waste facility	
8. Volume of water added (if any)	-	gal.	14. Total suspended solids		mg/l	mā
9. Source of water acced			15. COD		mg/l	mg/l
10. Analysis performed on water added? (If yes, attach results)	٥	Yes ■No				
16. Additional comments on developmen	t:					
Well developed by: Person's Name and F	irm		I hereby certify that the above is of my knowledge.	nformation	n is true and correct	to the best
Name: Mark McCollooch			J. 3	Cellar	7	
Firm: Dames & Moore			Print Initials: M S M Firm: Dames & Moore			

S:ate of Wis		☐ Haz ☐ Und ☐ Wat	lergrou er Res	nd Tar			BORI	NG L		NFOR			7-91				
Facility / Pro	oject Na	me		Emergency Re		_		ermit/N	Monitori	ng Numl	er		Boring N		0' _		
Borna Drills	ac By (E		thern States Pe e and name of crew			Date	Drilling	Starte	<u> </u>	Date	- Orilling	Comple	ned .		B-37 Drilling Method		
			ear - Ryan Fis			08 / 23 / 99 MM DD YY				-	23 /		-	1/4"		lSA	
DNR Facility	y Well N	lo. V	VI Unique Well No.	Common We	ell Name	Final Static Water Level				ice Elev	ation		Bor	Borehole Diameter			
Boring Loca				L				Feet M	ISL	Loca	Feet MSL Local Grid Location (If Applicable				8.3 inches		
State Plane		1/4 of	N Section 33 1	ES. T 48 <sub>N. R</sub>	/C/N R 4 E	Lon		_	_		Fe		N S		Fe		□
County	shlan		occio	· · · · · · · · · · · · · · · · · · ·	DNR County	y Code 2		Civil T		ity / or V	_	nd			<u> </u>		
Sample		Ī						1			1		opertie:	s		s	
Number Length Recovered (N)	Blow Counts (N)	Depth in Feet	And Geo	Soil/Rock Description And Geologic Origin For Each Major Unit				Graphic Log	Well Diagram	PID/FID	Standard Perietration	Moisture Content	Liquid	Plastic Limit	P 200	ROD/Comments	
1 12	2 2 2 3	- - -	SILT, some sa	Asphalt 0-3°, gravel sub-base 3-6° SILT, some sand, little gravel, little dry, firm, non-plastic, reddish brown						4.2	4						
2 12	2.5 4.5	2 3	CLAY, some si trace gravel, lo -slightly moist v	w plasticity,			CL			8.0	9						
3 17	3.5 5.6	5 6	CLAY, some s slightly moist, brown							4.2	11						
4 20	2.4 4.6	7 8								6.0	8						
5 24	7,10 10,9	9	CLAY, some sil moist, very stiff							9.6	20						
6 22	8.10 12.13	11								12.5	22						/boring.ppt
7 20	10,13 15,17	13	CLAY - as	CLAY - as above, slightly moist						8.6	28						f:/wodpc/jsb/boring.ppt
I hereby cert	ify that t	he inform	ation on this form is	true and correc	ct to the best of	f my kno	wiedge	).									

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than \$10 nor more than \$4,000 for each violation. Fines not less than \$10 or more than \$100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.08, Wis. Stats

Firm

Dames & Moore, Madison, WI

Signature Mark L. Mc Collock

State of Wisconsin
Department of Natural Resources

#### SOIL BORING LOG INFORMATION SUPPLEMENT 7-9\* \_\_iNT 7-9\* 2

			B-37	rces	Form	4400	-122A	·				age	· ·	7-9°
Samp	ng Num ole		0-01		1	T	1		T	Soil Pr	opertie		or	
Number	Length Recovered (N)	Blow Counts (N)	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	nscs	Graphic Log	Well Diagram	PID/FID	Standard Penetration	Moisture	Liquid		P 200	ROD/Comments
8	20	20,25 28,30	15	CLAY - as above, slightly moist - gravel @ 15'	CL			6.5	53					
9	14	10.12 13.14	17					4.5	25					
				EOB @ 13 feet.  Backfi so borehole with 3 - 50 lb bags of bentocite hole plug.										
			35  36											

#### WELL/DRILLHOLE/BOREHOLE ABANDONMENT Form 3300-5B Rev. 8-89

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis, Admin. Code, whichever is applicable. Also, see instructions on back.

GENERAL INFORMATION	(2) FACILITY NAME
Well/Drillhole/Borehole County Location B-37 Ashland	Original Well Owner (Li Known) Northern States Power
S <u>W</u> 1/4 of <u>NW</u> 1/4 of Sec. 33 : T. 49 N. R. 4	Present Well Owner Nor Them States Power
(If applicable) Gov't Lot Grid Number	301 Lake Share Dive East
Grid Location	City, State, Zip Code Ashland, WI 54806
Civil Town Name Ash land	Northern States Swer WI Unique Well No.
Street Address of Well 301 Lake Shore Drive East	Reason For Abandonmen:
City, Village Ashland, WI	Date of Abandonment 8 · 23-99
WELL/DRILLHOLE/BOREHOLE INFORMATION	
Original Well/Drillhole/Borehole Construction Completed On	(4) Depth to Water (Feet)
(Date) 8-23-59  Monitoring Well   Construction Report Available?	Pump & Piping Removed? Yes No Not Applicable Liner(s) Removed? Yes No Not Applicable Screen Removed? Yes No Not Applicable
Water Well Drillhole Borehole  Yes No	Casing Left in Place?  If No, Explain  Oun-used
Construction Type: Drilled Driven (Sandpoint) Dug Other (Specify)	Was Casing Cut Off Below Surface?  Did Sealing Material Rise to Surface?  Did Material Settle After 24 Hours?  If Yes, Was Hole Recopped?  Yes No
Formation Type: Unconsolidated Formation  Bedrock	(5) Required Method of Placing Sealing Material Conductor Pipe Gravity Conductor Pipe Pumped Dump Bailer Other (Explain)
Total Well Depth (ft.) 1B Casing Diameter (ins.) (From groundsurface)	(6) Sealing Materials For monitoring wells and  Neat Cement Grout monitoring well boreholes only  Sand-Cement (Concrete) Grout
Casing Depth (fil.)	Concrete Bentonite Pellets Clay-Sand Slurry Granular Bentonite
Was Well Annular Space Grouted? Yes Sto Unknown If Yes, To What Depth? Feet	
Sealing Material Used	From (FL) To (FL) Sacks Sealant or Volume Mix Ratio or Mud Weight
3/6" Holeply-chipped bentante	Surface 18 3 50 lb. Dags
S) Comments:	
	7/10
9) Name of Person or Firm Doing Sealing Work Boart Language / Dames & Mocre	(10) FOR DNR OR COUNTY USE ONLY  Date Received/Inspected District/County
Signature of Person Doing Work  Note of Person Doing Work  Note of Person Doing Work  8-23-79  Street or Route  Telephone Number	Reviewer/Inspector
25 Korsol Corf Sat 201 (608) 273-2886  City, State, Zip Code	Follow-up Necessary
Madison, CUI 53711	

State of Wiscon		0									BORI		og II	NFOR	MAT	ION	
Department of	Natural I	Kesou	Roi	ute To:	1	□ наг	Waste			F	orm 440	00-122				7-91	
				Solid Waste			ergrou		nks								
				Wastewater	1	□ wat	er Res	ource	s								
				Emergency Respon	nse (	□ Oth	er						F	age1	of _	1	
Facility / Projec	t Name			P-1		Lice	ense/Pe	rm:VI	Monito	ring Num	per	E	Boring F	Number			
			hern States Po											M	W-17		
Boring Drilled B	Boring Drilled By (Firm name and name of crew chief)				1	Drilling				e Drilling			Dril	Drilling Method			
Во	art Lo	ngye	ear - Ryan Fisc	cher		_ <u>08</u>	<u>  /-2</u>	<u>5</u> /	<u>99.</u> YY		<u>08.</u> /. м. <b>м</b>	_25_ / 0.D	25 / 99 4 1/4" ID HSA				
DNR Facility W	ieli No	Πw	1 Unique Well No.	Common Well Na	me		Static \			<del></del>	ce Elev			Bor	ehole C	iameter	_
		L				L _	F	eet N	/ISL			_ Feet I	MSL		8.3	_ inches	
Boring Location	1		A.	E S/C/N	•	ı La				Loca	I Grid Le	ocation (	If Appli	cable)			
State Plane			N N		4	Lon					E.		N		E-	_ E	
SW 1/4 of [	NVV 1.	/4 of S	Section		H E NR County					City / or \		el 🗖	S			et 🗆 W	
County Ash	land			5	0	2		O1711 1		City of	_	nd					
	- I				<del></del>	<del></del>		_	`	1	1					т	
Sample 2									_ ا		ļ	Soil Pr	орепіе	s	,	윭	
Number Length Recovered (N)	in Feet	į	Soil/Ro	ck Descriptio	on			Graphic Log	Well Diagram		Standard Penetration	٨			İ	ROD/Comments	
Number singth ecovered				logic Origin l			ļχ	phc	<u>e</u>	PID/FID	etra	Moisture Content	<u> </u>	25 =	8	သို့	
Number Length Recovered (	Depth			h Major Unit			nscs	Ga	₹	l de	Per	ဋိပိ	Limit	Plastic	P 200	202	
		. 4		ples collected. r adjacent well N		ι.											
	- - - - -	. 8										in the state of th					
	E	12														-	-
	<u> </u>	14														ļ	
	E																
	=	16											[				
	F									}							
	<del>-</del>	18		<u> </u>				$\vdash$									
	F		EOB @ 18	n.							l				1		
1 1	<u> </u>	20	Set well M	IW-17 @ 15 ft.													
	=											i					
	<u> </u>	22														-	í
	=															(wordecist) bound not	2
		. 24														<u>وَّ</u>	Š
	=															(4)	35
		26												]	]	]	Š
	]=										] ;						-
		_28											L				
			ation on this form is		the best of		wledge										_
Signature /	Was	14	1 M /	lloch	1	Firm	Da	ame	s & 1	Moore.	Madis	son. W	<b>/</b> I				

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than \$10 nor more than \$4,000 for each violation. Fines not less than \$10 or more than \$100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats

	olid Waste □ Haz. Waste □ Wastewate		MONITORING WELL CONSTRUCTION
	nse & Repair   Underground Tanks   O	ther 🗆	Form 4400-113A Rev. 4-90
Facility Project Name	Local Grid Location of Well		Well Name
NSP-Ashland	ft. Nft.	□ E. □ W.	MW-17
Facility License, Permit or Monitoring Number	Grid Origin Location		Wis Unique Well Number DNR Well Number
Type of Well Water Table Observation Well	Lat. Long. Long. ft. N,	ft. E.	Date Well Installed
Piezometer			$\frac{0}{m} \frac{8}{m} = \frac{2}{c} \frac{3}{d} \frac{y}{y} = \frac{9}{v}$
Distance Well Is From Waste/Source Boundary	Section Location of Waste/Source SW1/4 of NW1/4 of Sec. 33 T. 48 N.	■E R 4 □W	Well Installed By: (Person's Name and Firm)
Is Well A Point of Enforcement Std. Application?	Location of Well Relative to Waste/Source		Ryan Fischer
□ Yes □ No	u   Upgradient		Boart Longvear
A. Protective pipe, top elevation 6 3 4 4 0 ft	. MSL	/ 1. Cap and	lock? ■Yes □ No
B. Well casing, top elevation 6 3 3 8 8 ft			ve cover pipe:
C. Land surface elevation 634.4 ft		a, Inside	th:
	VALUE OF THE PROPERTY OF THE P	c. Mater	rial Steel 0 4
D. Surrace seal, bottom 6 3 3 . 4 ft MSL or	10h	J	rial Steel 0 4 Other Other
12. USCS classification of scii near screen:	-     利	a. Addii	tional protection?
GP □ GM □ GC □ GW □ SW □ SI SM □ SC □ ML □ MH □ CL ■ CH		3. Surface:	
Bedrock 🗆			Concrete <b>1</b> 0 1
12 Cinc and dispusated Divis	.	\ . <del></del>	Other C
13. Sieve analysis attached?   Yes		4. Materia	l between well casing and protective p:pe.  Bentonite□ 3 0
14. Drilling method used: Rotary D 5	1 11		Annular Space Seal □ □□□
Hellow Stem Auger Other			sand Other
Other Us			
15. Drilling fluid used: Water   0 2 Air   6			ular space seal: a. Granulæ Bentonite 📕 3-3
Drilling Mud	99	b	Lbs/gal mud weight Bentenite-sand slurry □ 3 5 Lbs/gal mud weight Bentenite slurry □ 3 1
16. Drilling additives used?   Yes	vo l	d	% Bentonite
		e. <u>50</u>	lbs Ft <sup>3</sup> volume added for any of the above
Describe:	<del></del>   [] []	f. How	installed: Tremie □ 0 1 Tremie pumped □ 0 2
17. Source of water (attached analysis):			Gravity ■ 0 8
		6. Bentonit	te seal: a. Bentonite granules <b>3</b> 3
			1/4 in. ■ 3/8 in. □ 1/2 in. Bentenite pellets □ 3/2
		c	Hole plug Other 🗆
E. Bentonite seal, top 6 3 2 9 ft MSL or	$\frac{1}{2} \cdot \frac{5}{1}$	, 7. Fine san	d material: Manufacturer, product name & mesh size
F. Fine sand, top	_4. <u>0</u> ft	u	BB #7 me added 50lbs
G. Filter pack, top 6 3 1 ft MSL or	<u>4</u> . <u>0</u> ft		nck material: Manufacturer, product name & mesh size ed Flint #30
H. Screen joint, top 6 2 9 . 4 ft MSL or	5.0 ft		me added 400 lbs
i. Well bottom <u>6 1 9 . 4 ft MSL or _1</u>	_5 <u>0</u> ft	9. Well cas	Flush threaded PVC schedule 80 🗆 2 4
J. Filter pack, bottom 6 1 _ 74 ft MSL or1	7 <u>0</u> ft		Other DVC asked 40
W. D. J. L. L. L	7.00		material: PVC sched. 40
K. Borehole, bottom 6 1 7 4 ft MSL or 1	<u>-</u>	2. 5010	Continuous slot □ 0 1
L. Borehole, diameter <u>8</u> . <u>3</u> in.			ufacturer Northern air
M. O.D. well casing $\frac{2}{3} \frac{3}{8}$ in.		c. Slot d. Slot	$\begin{array}{ccc} \text{size} & 0. & \underline{0} & \underline{1} & \underline{0} & \text{in.} \\ \text{red length:} & & \underline{1} & \underline{0} & \underline{0} & \text{it.} \\ \end{array}$
N. I.D. well casing $\frac{2}{2} \cdot \frac{0}{5} = \frac{5}{10}$ in.	`		Il material (below filler pack):  None □ 1 4  Ural Collapse  Other ■
I hereby certify that the information on this	form is true and correct to the best	of my know	ledge.

Signature Marks 1 M° Block Firm Dames & Moore

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch. 144, Wis. Stats., failure to file this form may result in a forfeiture of not less than \$10, nor more than \$5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation. NOTE: shaded areas are for DNR use only. See instruction for more information including where the completed form should be sent.

State of Wisconsin Department of Natural Resources			Haz. Waste □ Wastewater □ Underground Tanks □ Other □		MONITORING WELL CONSTRUCTION Form 4400-113B Rev. 4-90				
Facility/Project Name NSP - Ashland		County Name	Ashland	Well Na	me MW-17				
Facility License, Permit or Monitoring N	umber	County Code 0 2	Wis. Unique Well Number		DNR Well Number				
		<u></u>							
1. Can this well be purged dry?	<b>,</b> I	Yes 🗆 No		-	Before Development				
			11. Depth to Water (from top of we	ell casing)	a <u>1_2</u> <u>0_0</u> ft.	5. <u>91</u> ft.			
Well development method surged with bailer and bailed surged with bailer and pumped		4 1 16 1	Date		b. $\frac{0}{m} \frac{8}{m} / \frac{2}{d} \frac{5}{d} / \frac{9}{y} \frac{9}{y}$	$\frac{0.8}{\text{m m}} / \frac{2.8}{\text{d}} / \frac{9.9}{\text{y}}$			
surged with block and bailed surged with block and pumped surged with block, bailed and pump	ped C	14 2 16 2 17 0	Time		<b>■ a.m.</b> c. 1 0 : 0 5 □ p.m.				
comp <del>re</del> ssed air bailer only pumped only		12 0 11 0 15 1				<u> </u>			
pumped slowly Other		5 0 1 <u></u>	12. Sediment in well bottom		inches	inches			
3. Time spent developing well	-	2 1 0 min.	13. Water clarity		Clear □10 Turbid ■15	Clear □ 2 0 Turbid ■ 2 5			
4. Depth of well (from top of well casing	)	1 6. 9 ft.			(Describe)	Turbid			
5. Inside diameter of well	-	$\underline{2} \cdot \underline{0} \cdot \underline{5}$ in.			Red-brown, high turbidity				
Volume of waters in filter pack and we casing		<u>4</u> .4 gal.							
7. Volume of water removed from well	_	2 <u>9</u> 0gal.	Fill in if drilling fluids were used an	nd well is a	t solid waste facility.				
8. Volume of water added (if any)		_ <u></u> gal.	14. Total suspended solids		mg/l	mā			
9. Source of water added			I5. COD		mg/l	mg/l			
10. Analysis performed on water added? (If yes, attach results)	C	Yes ■No							
16. Additional comments on developmen	nt:					I			
			·						
Well developed by: Person's Name and F	irm		I hereby certify that the above i of my knowledge.	informat	ion is true and correct	to the best			
Name: Mark McCollooch			Signature: Mus + M	(Coll	24				
Firm: Dames & Moore			Print Initials: M S M Firm: Dames & Moore						
		<del></del>	A 191111						

State of Wisconsin	-							BORI	– –	OG II	NFOR	MAT	ION	
Department of Natural Resources	Route To		□ Haz	Waste	,		F	orm 440	10-122					7-91
	☐ Solic V		□ Und			nks								
	☐ Wastev		□ Wat	-										
	☐ Emerge	ency Response	☐ Oth	er						F	age1	of _	3_	
Facility / Project Name	•		Lice	ense/Pe	mith	<b>A</b> onitor	ing Numi	oer	1	Boring N	iumber			
Norther	n States Power		<u> </u>	<u> </u>					MW-17A					
Boring Drilled By (Firm name and	name of crew chief		1	Drilling				e Drilling	•		Dril	ling Me	thod	
Boart Longyear	- Ryan Fischer		_08 M M	<u>  1-2</u>	<u>4</u> /	<u>99</u>		<u>08.</u> /. ∨imi	<u>24</u> /	<del>, 33</del>	4	1/4"	ID F	ISA
DNR Facility Well No.   WI Uni	que Well No. Coma	on Well Name		Static V				ce Elev			Bor	ehole [	Diamet	er
Disk racing wen to.				F	eet M	1SL			_ Feet	MSL		8.3	_ inct	es
Boring Location			ı La				Loca	I Grid Lo	cation (	If Appli	cable)			
State Plane	N 33 48	E S/C/N	1			_	1	F.		Ŋ		۲.		□ E
SW 1/4 of NW 1/4 of Section	on 33 T 48	N.R 4 E DNR Count	1 Lon	•			City / or V		et 🗖	1 5		<u> </u>	et	o w
County Ashland		0	2	Ι,	<b>⊅1911 1</b>		City of	-	nd					
							) i j	1						
Sample 2				1		E		ļ	Soil Pr	ocertie	5		ig s	
Number Tengih Recovered (N) Blow Counts (N) Depth in Feet	Soil/Rock De	escription			Graphic Log	Aell Diagram		Standard Penetration	۱				ROD/Comments	
Number	And Geologic			S	phic	l Dia	PID/FID	de de	Moisture	모		g	ုပ္ရွိ	
Number Length Recovered (N Blow Counts	Each Maj	or Unit		nscs	Cra	Mei	PID	Star Per P	ខ្ទីខ្ទី	P E	Plastic Limit	P 200	ğ	
	Gravel Driveway -	Storage yard			$\vdash$				<del>                                     </del>	1		<u> </u>	$\vdash$	-
	51 <b>4</b> 401 51140114	0.0.030 / 0.0						1						
								İ		1				
								ļ		}				
												ĺ		
1 10 56 L a CI								12				Ì		
1 12 🖷 3 1 00	AY, some silt. trait ff, slightly moist, id			CL				'-						
	ni, siightiy moist. it own.	ow plasticity, read	113,1											
								ŀ		i	1	l		
	CLAY, some silt. s			CL-				١						
2 110 143 41	gravel, dry, low to : eddish brown	non-plastic, hard,		ML				45			ļ			
2 10 24 6 6	eddish brown			}								ŀ	ŀ	
				<del> </del>										
1 1 1 1	CLAY, some silt, t	trace sand trace						]						
	gravel, moist, stiff			CL								ĺ		
	reddish brown.	•						14	İ				İ	
					$\mathscr{M}$						1	İ		
=												1	Į.	
F 10														
6.7								16				ļ		
4 18 9 - 11												Ì		ğ
= 12												ľ		<u> Suuo</u>
- "									•			]		đg Đg
	CLAV sama sila l	little cand trace						}			I			i:\wodpc\sb\boring.ppt
5 15 6.6	CLAY, some siit. I gravel, slightly mo							13			1		1	<b>,</b> ₩0
	plasticity, reddish										1		1	42
hereby certify that the information			f my kno	wiedae				·		<u> </u>	·			
Signature Mach 1 M	uc block		Firm			s & N	loore.	Madis	son. V	VI				

This form is authorized by Chapters 144.147 and 162, Ws. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than \$10 nor more than \$4,000 for each violation. Fines not less than \$10 or more than \$100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats

#### SOIL BORING LOG INFORMATION SUPPLEMENT Form 4400-122A 7-91

Bori	ng Num	ber	MW-17	<u>7A</u>							Р	age <u>· 2</u>	of	3
Sam	ple	2					_			Soil Pr	ccenie	s		şuş
Number	Length Recovered (N)	Blow Counts (N)	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	nscs	Graphic Log	Well Diagram	PID/FID	Standard Penetration	Moisture Content	Liquid	Plastic Limit	P 200	ROD/Comments
6	16	10,12 14	15	CLAY, some silt, little sand, trace gravel, slightly moist, stiff, low plasticity, reddish brown.	CL				26					
7	16	12.10 14	18						24					
8	14	17.22 31	20 21 - 22	CLAY, some silt, trace gravel, little sand, slightly moist, dry, hard, low plasticity, reddish brown.	CL				53					
9	17	19.28 30	23	3-inch silty sand seam at 24 ft (SM), fine to medium grained, very moist, loose.					58					
10	18	21 27 34	25	CLAY, some silt, little sand, trace gravel, slightly moist, hard, low plasticity, reddish brown.  2-inch silty sand seams (SM) at 25.5					61					
11	18	18,14 25	27 28 29	and 26 feet.					40					
12	18	11, <b>15</b> 16	30 31 31 32						31			i		
13	18	15,19 21	33	SAND, little silt, trace gravel, poorly graded, medium dense, wet, reddish brown.	SM				40					
14	18	15.21 26	36	CLAY, some silt, little sand, trace gravel, slightly moist, hard, low plasticity, reddish brown.	CL				47					

State of Wisconsin Department of Natural Resources

#### SOIL BORING LOG INFORMATION SUPPLEMENT Form 4400-122A 7-91 7-91

Borin	ig Num	ber	MW-17	<u>^A</u>							ρ	age _	3_ of _	3
Sami		Ê					_			Soil Pr	opertie	3		suts
Number	Length Recovered (N)	Blow Counts (N)	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	nscs	Graphic Log	Well Diagram	PID/FID	Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	ROD/Comments
15	18	18.28 37	37 38 39	SAND, some silt, trace gravel, poorly graded, dense, wet, reddish brown.	SM				65					
16	18	14,21 26	41	SAND, fine to medium grained, trace silt, dense, wet, poorly graded, reddish brown.	SP- SM				47					
17	18	15.19 22	.43						41					
18	14	17,21 26	45						47					
19	6	18.23 21	48	CLAY, some silt, little sand, trace gravel, dense, wet, non-plastic, reddish brown.	CL- ML				44		:			
20	14	17,24 23	51 52						47					
21	14	21,28 32	53	SAND, fine to medium grained, some silt, trace gravel, very dense, poorly graded, wet, reddish brown.	SM				60					
22	16	18,23 31	55 56						54					
			57 - - - - - - - 58	EOB @ 56.5 ft. Set well MW-17A @ 56.5 ft.				_						

	olid Waste  Haz. Waste  Waste Underground Tan	astewater 🗆		ITORING WELL CONST. 4400-113A	RUCTION Rev. 4-90
Department of Natural Resources Env. Respon	Local Grid Location of Well		Well Name		
NSP-Ashland	ft. N.	fi. □ E. □ W.		MW-17A	
Facility License, Permit or Monitoring Number	Grid Origin Location			umbet DNR Wa	i Nigober
Type of Well Water Table Observation Well Piezometer □ 11	Lat. Lon St. Plane ft. N,	tt. E.	Date Well Installed	0 8 / 2 4 / · · · m m d d · · ·	9
Distance Well Is From Waste/Source Boundary	Section Location of Waste/Source SWI/4 of NWI/4 of Sec. 33 . T		Well Installed By: (Pe	erson's Name and Firm)	
Is Well A Point of Enforcement Std. Application?  Yes No	Location of Well Relative to Way u Dpgradient d Downgradient	s 🗖 Sidegradient	Boart Longyear		
A. Protective pipe, top elevation 6 3 4 . 4 0 ft. M		1. Cap and		■ Yes	□ No
B. Well casing, top elevation 6 3 3 6 8 ft		1	ve cover pipe: le diameter:	\$	0 in.
C. Land surface elevation 6 3 4 . 4 ft		b. Lens	zth:	_ <del>-</del> -	<u>0</u> ft.
	1 1 1 1	c. Mate	rial: Flush mount	Steei Other	0.4
D. Surface seal, bottom n MSL or	<u></u> "	d Add	itional protection?	Other	No
12. USCS classification of soil near screen:  GP    GM    GC    GW    SW    SW    SSW    SC    ML    MH    CL    CSW    Bedrock    G	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		s, describe:	Bentonite Concrete	<b>a</b> 0 1
		3 \ . <del></del>	al between well casing ar	Other	نينا ت
13. Sieve analysis attached?   Yes	<b>v</b> o	4. Materia	at between wen casing at	nd protective pipe. Bentonite	:⊏ 3 0
14. Drilling method used: Rotary  Hollow Stem Auger Other	• 1   [7]		sand	Annular Space Sea Other	
15. Drilling fluid used: Water □ 0 2 Air □ Drilling Mud □ 0 3 None ■  16 Drilling additives used? □ Yes ■	0 1 9 9	b c d.	Lbs/gal mud weight Lbs/gal mud weight	a. Granular Bentonite Bentonite-sand slurry Bentonite slurry Bentonite slurry Bentonite sreut	3 5 3 1 3 1
Describe:	A	E. Hov	w installed:	Tremie Tremie pumped	: O O O O
17. Source of water (attached analysis).				Gravit	0 8
		6. Benton b. C	ite seal: I 1/4 in. ■ 3/8 in. □ Hole plug	a. Bentonite granuie: 1/2 in. Bentonite pelle: Other	s <b>a</b> 3 2
E. Bentonite seal. top6_3_3 4 ft MSL or	<u> </u>	7. Fine sa	ind material: Manufactur BB #7	rer, product name & mesh	si <b>zč</b>
F. Fine sand, top <u>5 8 8 . 4 </u> ft MSL or <u>4</u>	_ <u>6_0</u> ft	6. Vol	ume added	50 lbs	
G. Filter pack, top 5 8 6 . 4 ft MSL or _4	<b>\</b>	N/ / a. i	Red Flint #30	urer, product name & mesi	n size
H. Screen joint, top5_8_44ft MSL or _5	. <u>0</u> . <u>0</u> ft	₩ /	ume added 200	lbs	
I. Well bottom	5 5 0 ft	9. Well ca		threaded PVC schedule 46 threaded PVC schedule 80 Other	_
J. Filter pack, bottom 5 7 8 . 4 ft MSL or	5 6 5 n	10. Screen	n material: PVC sche	d. 40	<u> </u>
K. Borehole, bottom5_7_84 ft MSL or	<u>5_6.5</u> ft	a. Sci	reen type:	Factory cur Continuous sta	t 🗆 0 1
L. Borehole, diameter8 . 3_ in.		<u>ь. Ма</u>	anufacturer Northe	rn Air	
M. O.D. well casing $\frac{2}{3} \cdot \frac{3}{8}$ in.	<del></del>	`	ot size otted length:		<u>0 1 0 ii</u> 0 50_
N. I.D. well casing $\underline{2} \cdot \underline{0} \cdot \underline{5}$ in.		_	fill material (below filler	r pack): Non	e□ 1 4 ■ ⊡

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch. 144, Wis. Stats., failure to file this form may result in a forfeiture of not less than \$10, nor more than \$5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation. NOTE: shaded areas are for DNR use only. See instruction for more information including where the completed form should be sent.

State of Wisconsin Department of Natural Resources	Route to: S Env. Respon	olid Waste 🗆 🛭 I	Haz. Waste □ Wastewater □ Underground Tanks □ Other □		MONITORING WELL CONSTRUCTION Form 4400-113B Rev. 4-90				
Fachity/Project Name NSP - Ashland		County Name	Ashland	Well Na	me MW-17A				
Facility License, Permit or Monitoring No	umber	County Code	Wis Unique Well Number		DNR Wen Number				
		0 2				<del>(1111) (1111)</del>			
•	4-				Before Development	After Development			
1. Can this well be purged dry?		Yes No							
			11. Depth to Water (from top of we	ell casing)	a. <u>3 0</u> . <u>5 0</u> ft.	$\frac{2}{0} \cdot \frac{0}{3} \cdot \hat{\mathbf{n}}$			
Well development method     surged with bailer and bailed		4 1	Date		N 0 8 / 2 5 / 9 9	08/28/99			
surged with bailer and pumped		361	Date		b. $\frac{0}{m} \frac{8}{m} / \frac{2}{d} \frac{5}{d} / \frac{9}{y} \frac{9}{y}$	0 8 / 2 8 / 9 9 m m d d y y			
surged with block and bailed		342 362							
surged with block and pumped surged with block, bailed and pump	_	3 0 2 3 7 0			■am.	■ a.m.			
compressed air		320	Time		c. <u>l 0</u> : <u>0</u> <u>0</u> <b>D</b> p.m.	. <u>1 1 : 5 0</u> □ p.m.			
bailer only		<b>1</b> 0				]			
pumped only		] 5							
pumped slowly Other			12. Sediment in well bottom		inches	inches			
<u> </u>		<del></del>							
3. Time spent developing well	-	$-\frac{1}{2}\frac{7}{2}\frac{5}{5}$ min.	13. Water clarity		Clear 🗆 1 0	Clear 20			
			13. Water Clarity		Turbid 15	Turbid 2 5			
4. Depth of well (from top of well casing	) .	<u>5_46</u> n.			(Describe)	(Describe)			
•					Red-brown, high	same			
e to the francisco of wall		2 . 0 5 in.			turbidity				
5. Inside diameter of well	•								
6. Volume of waters in filter pack and we	ell								
casing	-	<u>9</u> . <u>0</u> gal.			A1.4 (F. 191)				
			Fill in if drilling fluids were used as	nd well is	at solid waste facility.				
7. Volume of water removed from well		<u>3_9</u> 0gal.							
			14. Total suspended solids		mg/l				
8. Volume of water added (if any)		gal.							
0.0									
9. Source of water added			15. COD		mg/l	mg/			
10. Analysis performed on water added?	1	□ Yes ■No	l						
(If yes, attach results)									
					<del></del>	<u> </u>			
16. Additional comments on developme	nt:								
					<del></del>				
Well developed by: Person's Name and	Firm		I hereby certify that the above	informa	ition is true and corre	ct to the best			
			of my knowledge.						
Name: Mark McCollooch			Signature: Mal L M	Willer	5				
, vadito,			M S M						
			Print Initials:	•					
Firm: Dames & Moore			Firm: Dames & Moore	e					
1 4 (11)			· """						

.

#### APPENDIX B

LABORATORY REPORTS FOR THE AUGUST 1999 GROUNDWATER SAMPLES

Client:

**ANALYTICAL REPORT** 

PAGE: 1

NLS PROJECT# 49882

Project Description: NSP 05644-088 Project Title: MSN-R-0899-0256 Dames & Moore Attn: Dave Tranior 25 Kessel Court Suite 201 Madison, WI 53711

Sample ID: MW-5 NLS#: 210374 Ref. Line 1 of COC 39313 Description: MW-5 Collected: 08/25/99 Received: 08/26/99 Report

Reported: 09/24/99

	semivolatile GC/MS by 8270C	base/Neurial/Acid Extraction	VOCS (Water) by EFA 0021	ariic, ars. as an by ice	Ping dia 30 % but by 100	Nickel dia as to by ICE	I cold dis on the by ICP	Cyantue, coc. (discilled) as CN	de cu by ice	- 0		Parameter
Additional Co control, spike preventing sur calibration cu	see attached	yes	see attached	160	* L. U	, 2	1.0	, E	2.1	2.5	ND	Result
Additional Comments: 2,4-Dimethyphenol had low recovery in the control, spike and duplicate. Sample required dilution prior to anal preventing surrogate recovery determination. Naphthalene exceeds the calibration curve and should be considered an estimate.				ug/L	л/En	ug/L	mg/l.	mg/L	1/bn	1/5n	ug/L	Units
yphenol had lomple required ermination. No				12	0.66	1.4	0.0010	0.0032	0.47	0.42	4.2	LOD
w recover dilution daphthalen				12	2.3	5.1	0.0035	0.011	1.7	1.5	15	бот
8270C ol had low recovery in the required dilution prior to analysis sation. Naphthalene exceeds the lered an estimate.	SW846 08/28/99 721026460	SW846 3510 08/27/99 721026460	SW846 8021 09/03/99 72102646	SW846 6010 09/21/99 721026460	SW846 6010 09/21/99 72102646	SW846 6010 09/21/99 72102640	SW846 6010 09/21/99 721026460	EPA 335.4 08/27/99 72102640	SW846 6010 09/21/99 72102640	SW846 6010 09/21/99 72102640	SW846 6010 09/21/99 721026460	Method Analyzed Lab
***	<u>-</u>	Ď	0	0	0	ċ	č	0	Ö	50	0	

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Tel:(715)478-2777 Fax:(715)478-3060

Client:

### ANALYTICAL REPORT

PAGE: NLS PROJECT# 49882

NLS CUST#

Project Project Description: NSP 05644-088 Title: MSN-R-0899-0256 Dames & Moore Attn: Dave Tranior 25 Kessel Court Suite 201 Madison, WI 53711

Arsenic, dis. as As by ICP
Chromium, dis. as Cr by ICP
Copper, dis. as Cu by ICP
Cyanide, tot. (distilled) as CN
Iron, dis. as Fe by ICP
Lead, dis. as Pb by ICP
Nickel, dis. as Ni by ICP
Zinc, dis. as Zn by ICP
VOCS (water) by EPA 8021 Parameter Sample ID: MW-5A Ref. Line 2 of COC 39313 Collected: 08/25/99 Rec SA NLS#: 210375 \$13 Description: MW-5A Received: 08/26/99 Reporte Reported: 09/24/99

Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C

۸ Result ND 0.69 > ND 0.76 0.023 see attached
Additional Comments: Naphthalenc was
blank at 1.1 ug/L. 48 1/6m 1/6m 1/6m 1/7m 1/6m 1/6m 1/6m 4.2 0.42 0.47 0.0032 0.0010 1.4 0.66 present in the laboratory 15 1.5 1.7 0.011 0.0035 5.1 2.3 SWB46 6010 09/21/99 7 SWB46 6010 09/21/99 7 SWB46 6010 09/21/99 7 EPA 335.4 08/27/99 7 SWB46 6010 09/21/99 7 SWB46 6010 09/21/99 7 SWB46 6010 09/21/99 7 SWB46 6010 09/21/99 7 SWB46 6010 09/21/99 7 3510 08/27/99 08/27/99 Analyzed 9 721026460 9 721026460 9 721026460 9 721026460 9 721026460 9 721026460 9 721026460 9 721026460 721026460 721026460

SW846 3510

Additional Comments: 2,4-Dimothyphenol and 4-methylphenol had low recoveries in the control, spike and duplicate. Naphthalene concentration exceeds the highest standard in the calibration curve should be considered an estimated value. and

NORTHERN LAKE SERVICE, INC. Analytical Laboratory and Environmental Services 400 North Lake Avenue - Craudon, WI 54820 Tel:(715)478-2777 Fax:(715)478-3060

Client:

Dames & Moore Attn: Dave Tranior 25 Kessel Court Suite 201 Madison, WI 53711

### ANALYTICAL REPORT

PAGE: 3 NLS PROJECT# 49882

NLS CUST#

8098

Project Description: NSP 05644-088 Project Title: MSN-R-0899-0256

	Semivolatile GC/MS by 8270C		VOC6 (water) by EPA 8021	Zinc, dis. as Zn by ICP	Nickel, dis. as Ni by ICP	Lead, dis. as Pb by ICP	Iron, dis. as Fe by ICP	;	Copper, dis. as Cu by ICP	Chromium, dis. as Cr by ICP	Arsenic, dis. as As by ICP	Parameter	Sample ID: MW-5A Dup NLS#: 210376 Ref. Line 3 of COC 39313 Description: MW-5A Dup Collected: 08/25/99 Received: 08/26/99 Reported: 09/24/99
Additional C low recoverie concentration should be con	yes see attached	Additional Comments: blank at 1.1 ug/L.	see attached	4.	< 0.97 >	<b>N</b> D	0.76	0.024	< 0.67 >	ND	ND	Result	999
Additional Comments: 2,4-Dimethyphenol low recoveries in the control, spike and concentration exceeds the highest standa should be considered an estimated value.		Comments: Naphthalene was ug/L.	į	1/Du	ug/L	ug/L	mg/L	mg/L	ug/L	1/6n	ug/L	Units	
Additional Comments: 2,4-Dimethyphenol and 4-mothylphenol had low recoveries in the control, spike and duplicate. Naphthalene concentration exceeds the highest standard in the calibration curve and should be considered an estimated value.					0.66 2.					0.42 1.5	4.2 15	LOD	
hylphenol had . Naphthalene calibration curve	SW846	present in the laboratory	1208 998MS				S					Method	
and	SW846 3510 08/27/99 721026460 SW846 08/27/99 721026460		2007/12/01/27 66/10/60 1208 978MS	09/21/99 721026460	09/21/99 721026460	09/21/99 721026460	SW846 6010 09/21/99 721026460	08/31/99 721026460	09/21/99 721026460	09/21/99 721026460	09/21/99 721026460	Analyzed Lab	•

NORTHERN LAKE SERVICE, INC. Analytical Laboratory and Environmental Services 400 North Lake Avenue - Crandon, WI 54520 Tel:(715)478-2777 Fax:(715)478-3060

### ANALYTICAL REPORT

PAGE: 4 NLS PROJECT# 49882 NLS CUST# 8098

Dames & Moore Attn: Dave Tranior 25 Kessel Court Suite 201 Madison, WI 53711

Client:

Project Description: NSP 05644-088 Project Title: MSN-R-0899-0256

Sample ID: MW-5B NLS#: 210377

Ref. Line 4 of COC 39313 Description: MW-5B
Additional Comments: Ten-fold dilution analysis performed for metals due to organic content. Collected: 08/25/99 Received: 08/26/99 Reported: 08/24/99

	Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C	VOCs (water) by EPA 8021	Zinc, dis. as Zn by ICP	head, dis. as rb by icr	Iron, dis. as re by ICP	Cyanide, tot. (distilled) as CN	Copper, dis. as cu by ter	Chromium, dis. as cr by icr	AISENIC, GIB. GB MS DY ICE	TO BE BY TOP	Parameter	Collected: 08/25/99 Received: 08/26/99 Rep
							_			-	Rei	Reported: US/24/99
Additional Comments: 2,4-Dimethyphenol and 4-methylphenol had low recoveries in the control, spike and duplicate.	yes see attached	Additional Comments:		B		100	0.5				Result	
the control, spik		nts: Naphthalene was	ug/L	nd/F	mg/L	mg/t.	mo/I.	₩g/1.	ng/L	ug/L	Units	
henol and 4 e and dupli			120	6.6	14	0.010	0.0032	4.7	4.2	42	ТОД	
-methylphen cate.		present in the laboratory	120	23		0.035		17		150	DOT LOG	
ol had	SW846 351 SW846 8270C	oratory	SW846 601	SW846 601	SW846 601	SW846 6010	EPA 335.4	SW846 6010	SW846 6014	SW846 6010	Method	
	SW846 3510 08/27/99 721026460 SW846 08/28/99 721026460 8270C		SW846 6010 09/21/99 721026460 SW846 8021 09/01/99 721026460	09/21/99 721026460	09/21/99 721026460	) 09/21/99 721026460	08/31/99 721026460	09/21/99 721026460	09/21/99 721026460	0 09/21/99 721026460	Analyzed Lab	

Client:

#### WIS. LAB CERT. NO. 721026460

### ANALYTICAL REPORT

PAGE: 5 NLS PROJECT# 49882

NLS CUST#

8098

Dames & Moore Attn: Dave Tranior 25 Kessel Court Suite 201 Madison, WI 53711

Project Description: NSP 05644-088 Project Title: MSN-R-0899-0256

Sample ID: MW-5C NLS#: 210378
Ref. Line 5 of COC 39313 Description: MW-5C
Collected: 08/25/99 Received: 08/26/99 Reported: 09/24/9

ery in the	Additional Comments: 2,4-Dimethylphenol had low recovery in the	Additional Comments: 2,4-D	
		see attached	Semivolatile GC/MS by 8270C
		yes	Base/Neutral/Acid Extraction
present in the laboratory	Naphthalene was pres	Additional Comments:	
		see attached	VOCs (water) by EPA 8021
12	12	39 ug/L	Zinc, dis. as Zn by ICP
2.3	0.66		Nickel, dis. as Ni by ICP
5.1	1.4	< 2.9 > ug/li	Lead, dis. as Pb by ICP
	0.001		Iron, dis. as Fe by ICP
	0.0032		Cyanide, tot. (distilled) as CN
	0.47		Copper, dis. as Cu by ICP
1.5	0.42	ND ug/L	Chromium, dis. as Cr by ICP
	4.2		Arsenic, dis. as As by ICP
\$01	TOD	Result Units	Parameter
		09/24/99	Collected: 08/25/99 Received: 08/26/99 Reported: 09/24/99

### **ANALYTICAL REPORT**

PAGE: 6 NLS PROJECT# 49882

NLS CUST#

8098

Dames & Moore Attn: Dave Tranior 25 Kessel Court Suite 201 Madison, WI 53711

Client:

Project Description: NSP 05644-088 Project Title: MSN-R-0899-0256

Client:

### ANALYTICAL REPORT

PAGE: 7 NLS CUST# NLS PROJECT# 49882 8608

Project Description: NSP 05644-088 Project Title: MSN-R-0899-0256 Dames & Moore Attn: Dave Tranior 25 Kessel Court Suite 201 Madison, WI 53711

	VOCS (Water) by his com- Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C	Nickel, dis. as Ni by icr Zinc, dis. as Zn by ICP Zinc, the by FDA 8021	Iron, dis. as Fe by ICF Lead, dis. as pb by ICF	Cyanide, tot. (distilled) as CN	Arsenic, dis. as As by ICP Chromium, dis. as Cr by ICP	Parameter	Sample ID: RW-6A Ref. Line 7 of COC 39313 Description: NW-8A Collected: 08/24/99 Received: 08/26/99 Reported: 09/24/99	NI.S#: 210380
Additional Comments: 2,4-Dimethylph low recoveries in the control, spike	yes see attached	tached	ND ug/L < 2.1 > ug/L		< 0.71 > ug/L 2.9 ug/L	ļē.		0
2,4-Dimethylphenol and 4-methylphenol had control, spike and duplicate.					0.42 1.5 0.47 1.7	4.2 15	rop	
mot had	SW846 8270C	SW846 81 SW846 31	SW846 60	SW846 60	SW846 60 SW846 60	SW846 60	Method	

SW846 6010 SW846 6010 SW846 6010 EPA 335.4 SW846 6010 SW846 6010 SW846 6010 SW846 8021 SW846 3510 SW846 3510

Analyzed

Lab

# NORTHERN LAKE SERVICE, INC. Analytical Laboratory and Environmental Services 400 North Lake Avenue - Crandon, WI 54520 Tel:(715)478-2777 Fax:(715)478-3060

Client:

Dames & Moore Attn: Dave Tranior 25 Kessel Court Suite 201 Madison, WI 53711

ANALYTICAL REPORT

PAGE: 8 NLS CUST# NLS PROJECT# 49882 8098

Sample ID: MW-11 Rel. Line 8 of COC 39313 Description: MW-11 Rel. Line 8 of COC 39313 Description: MW-11 Rel. Line 8 of COC 39313 Description: MW-11 Collected: 08/24/99 Received: 08/26/99 Reported: 09/24/99  Parameter Arsenic, dis. as As by ICP Chromium, dis. as Cr by ICP Copper, dis. as Cr by ICP Cyanide, tot. (distilled) as CN Iron, dis. as Fe by ICP Nickel, dis. as Pb by ICP Zinc, dis. as Nb by ICP Zinc, dis. as Nb by ICP Zinc, dis. as Zn by ICP Zinc, dis. as Zn by ICP Sinc, dis	Project Description: NSP 05644-088 Project Title: MSN-R-0899-0256
^	
LOD LOQ  4.2 0.42 0.42 1.5 0.047 1.7 0.0032 0.011 0.0010 0.0035 1.4 5.1 0.66 2.3 12 12 12	
Method Analyzed Lab  SW846 6010 09/21/99 721026460 SW846 6010 09/21/99 721026460 SW846 6010 09/21/99 721026460 EPA 335.4 08/31/99 721026460 SW846 6010 09/21/99 721026460 SW846 6010 09/21/99 721026460 SW846 6010 09/21/99 721026460 SW846 8021 09/21/99 721026460 SW846 8021 09/21/99 721026460 SW846 3510 08/27/99 721026460 SW846 3510 08/27/99 721026460 SW846 3510 08/27/99 721026460	

### ANALYTICAL REPORT

PAGE: 9 NLS PROJECT# 49882 NLS CUST# 8098

Client: Dames & Moore
Attn: Dave Tranior
25 Kessel Court
Suite 201
Madison, WI 53711
Project Description: NSP 05644-088
Project Title: MSN-R-0899-0256

_					
	VOCs (water) by EPA 8021 Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C	Iron, dis. as Fe by ICP Lead, dis. as Ni by ICP Nickel, dis. as Ni by ICP Zinc. dis. as Zn by ICP	Chromium, dis. as Cu by CC Copper, dis. as Cu by ICP Cyanide, tot. (distilled) as CN Cyanide, tot. To by ICP	Parameter  Arsenic, dis. as As by ICP  Arsenic, dis. as Cr by ICP	Sample ID: MW-10 NLS#: 210382 Ref. Line 9 of COC 39313 Description: MW-10 Collected: 08/24/99 Received: 08/26/99 Reported: 09/24/99
Additional Comments: 2,4-Did control, spike and duplicate.	yes see attached	ND	2.9 ND 0.0061	ND ND	210382 .10 Reported: 09/24/99 Result
Additional Comments: 2,4-Dimethylphenor nav row recovery tontrol, spike and duplicate.		ug/L 0.66 ug/L 12	mg/L 0.0032 mg/L 0.0010	ug/L 4.2 ug/L 0.42	Units LOD
A COO STAN	\$M846 08, \$M846 08, 8270C		0.011 EPA 335.4 09/ 0.0035 SW846 6010 09/ 5.1 SW846 6010 09/		LOQ Method Ana
,	08/27/99 721026460	SW846 6010 09/21/99 721026460 SW846 6010 09/21/99 721026460 SW846 8021 09/03/99 721026460 SW846 8021 09/03/99 721026460	701/99 721026460 721/99 721026460 721/99 721026460	/21/99 721026460 /21/99 721026460 /21/99 721026460	Analyzed Lab

NORTHERN LAKE SERVICE, INC. Analytical Laboratory and Environmental Services 400 North Lake Avenue - Crandon, WI 54520 Tel:(715)478-2777 Fax:(715)478-3060

Client:

### ANALYTICAL REPORT

PAGE: 10 NLS CUST# NLS PROJECT# 49882 8608

Project Description: NSP 05644-088 Project Title: MSN-R-0899-0256 Dames & Moore Attn: Dave Tranior 25 Kessel Court Suite 201 Madison, WI 53711

Arsenic, dis. as As by ICP Chromium, dis. as Cu by ICP Copper, dis. as Cu by ICP Copper, dis. as Cu by ICP Cyanide, tot. (distilled) as CN Iron, dis. as Fe by ICP Lead, dis. as Fb by ICP Nickel, dis. as Ni by ICP Nickel, dis. as Ni by ICP Zinc, dis. as Zn by ICP VOCs (water) by EPA 8021
Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C Parameter Sample ID: MW-10A NLS#: 210383
Ref. Line 10 of COC 39313 Description: MW-10A
Collected: 08/24/99 Received: 08/26/99 Reported: Reported: 09/24/99

ND 0.0075 Result see attached yes see attached Additional Comments: 2,4-Dimethylphenol had low recovery in the control, spike and duplicate. 1/6n 1/6n 1/6w 1/6w 1/6w 1/6n 1/6n 4.2 0.42 0.47 0.0032 0.0010 1.4 0.66 15 1.5 1.7 0.011 0.0035 5.1 2.3 507 SW846 6010 SW846 6010 SW846 6010 EPA 335.4 SW846 6010 SW846 6010 SW846 6010 SW846 8021 SW846 3510 SW846 3510 0 09/21/99 721026460 0 09/21/99 721026460 0 09/21/99 721026460 0 09/01/99 721026460 0 09/21/99 721026460 0 09/21/99 721026460 0 09/21/99 721026460 0 09/21/99 721026460 0 09/21/99 721026460 0 08/27/99 721026460 0 08/27/99 721026460 Lab

Analyzed

NLS PROJECT# 49882  RLS CUST# 8098  Rethod Analyzed La  W846 6010 09/21/99 73  W846 6010 09/21/99 73  W846 6010 09/21/99 73  W846 6010 09/21/99 73  W846 6010 09/21/99 73  W846 6010 09/21/99 73  W846 8010 09/21/99 73  W846 8021 09/03/99 73  W846 8021 09/03/99 73  W846 8021 09/03/99 73  W846 8021 09/03/99 73  W846 8021 09/03/99 73  W846 8021 09/03/99 73  W846 8021 09/03/99 73  W846 8021 09/03/99 73  W846 8021 09/03/99 73  W846 8021 09/03/99 73
---

### ANALYTICAL REPORT

PAGE: 12 NLS PROJECT# 49882

NLS CUST# 8098

Client: Dames & Moore
Attn: Dave Tranior
25 Kessel Court
Suite 201
Madison, WI 53711
Project Description: NSP 05644-088
Project Title: MSN-R-0899-0256

-		Semivolatile GC/MS by 8270C	VOCE (water) by EPA 8021	Nickel, dis. as Ni by ICP	Lead, dis. as Pb by ICP	Iron, dis. as Fe by ICP	Copper, dis. as Cu by its		Argenic dis. as As by ICP	Parameter	Concessor	Ref. Line 12 of COC 39313 Description: MW-9A Collected: 08/24/99 Received: 08/26/99 Reported: 09/24/99	Sample ID: MW-6A NLS#: 210385
	additional Comments: 2,4-Dimethylphenol had low recovery an control, spike and duplicate.	see attached	yes	rached	3.2 ug/L			5.6 ug/L				24/99	
	ethylphenol nad low reco							0.47 1.7			TOD		
	CLY AND CONTRACTOR	8270C	SW846 08/28/99 721026460	SW846 8021 09/03/99 721026460	SW846 6010 09/21/99 721026460	SW846 6010 09/21/99 721026460	SW846 6010 09/21/99 721026460	EPA 335.4 09/01/99 721026460	SW846 6010 09/21/99 721026460	SW846 6010 09/21/99 721026460	Method Analyzed Lab		•

#### WIS. LAB CERT. NO. 721026460

NORTHERN LAKE SERVICE, INC. Analytical Laboratory and Environmental Services 400 North Lake Avenue - Crandon, WI 54520 Tel:(715)478-2777 Fax:(715)478-3060

Client:

ANALYTICAL REPORT

PAGE: NLS CUST# NLS PROJECT# 49882 8098

Dames & Moore Attn: Dave Tranior 25 Kessel Court Suite 201 Madison, WI 53711

Arsenic, dis. as As by ICP Chromium, dis. as Cu by ICP Copper, dis. as Cu by ICP Cyanide, tot. (distilled) as Cr Iron, dis. as Fe by ICP Lead, dis. as Pb by ICP Nickel, dis. as Pb by ICP Nickel, dis. as Ni by ICP Nickel, dis. as Ni by ICP Sinc, dis. as Ni by ICP Buse/Neutral/Acid Extraction Semivolatile GC/MS by 8270C Project Description: NSP 05644-088 Project Title: MSN-R-0899-0256 VOCs (water) by EPA 8021 Parameter Sample ID: Trip Blank NLS#: 210386 Rol. Lino 13 of COC 39313 Description: Trip Blank Collected: 08/24/99 Received: 08/26/99 Reported: 09/24 Sample ID: MW-1 NLS#: 21
Ref. Line 1 of COC 39323 Description: MW-1
Collected: 08/25/99 Received: 08/27/99 Parameter NLS#: 210540 S Reported: 09/24/99 Reported: 09/24/99 ND ug/L 0.42 15 SW846 6010 09/21/99 721026460 0.42 1.7 SW846 6010 09/21/99 721026460 0.42 1.7 SW846 6010 09/21/99 721026460 0.0032 0.011 EPA 335.4 09/01/99 721026460 0.0032 0.0035 SW846 6010 09/21/99 721026460 0.0035 SW846 SW846 SW846 SW846 SW846 SW846 SW846 SW846 SW846 SW846 SW846 SW846 SW846 SW846 SW846 Result see attached Units 200 Pop 00 001 SW846 8021 09/03/99 721026460 Method Method Analyzed Analyzed Lab

## NORTHERN LAKE SERVICE, INC. Analytical Laboratory and Environmental Services 400 North Lake Avenue - Crandon, WI 54520 Tel:(715)478-2777 Fax:(715)478-3060

Client:

PAGE: 14 NLS PROJECT# 49882

NLS CUST#

ANALYTICAL REPORT

Arsenic, dis. as As by ICP Chromium, dis. as Cr by ICP Copper, dis. as Cu by ICP Copper, dis. as Cu by ICP Cyanide, tot. (distilled) as Cl Iron, dis. as Fe by ICP Lead, dis. as Pb by ICP Nickel, dis. as Ni by ICP Sinc, dis. as Zn by ICP Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C Sample ID: MW-2 NLS#: 210541 Ref. Line 2 of COC 39323 Description: MW-2 Collected: 08/25/99 Received: 08/27/99 Report Project Description: NSP 05644-088 Project Title: MSN-R-0899-0256 Dames & Moore Attn: Dave Tranior 25 Kessel Court Suite 201 Madison, WI 53711 ç Reported: 09/24/99 ^ ^ Regult ND 0.11 39 ( 1.9 > ( 0.95 > 4.4 > see attached 1/6n 1/6n 1/6n 1/6n 1/6n 1/6n 1/6n 4.2 0.42 0.47 0.0032 0.0010 1.4 0.66 000 15 1.5 1.7 0.011 0.0035 5.1 2.3 ğoʻ1 SWB46 6010 09/21/99 721026460
SWB46 6010 09/21/99 721026460
SWB46 6010 09/21/99 721026460
EPA 335.4 09/01/99 721026460
SWB46 6010 09/21/99 721026460
SWB46 3510 08/28/99 721026460
SWB46 3510 08/28/99 721026460
SWB46 3510 08/28/99 721026460 Method Analyzed Lab

Parameter

Additional Comments: 2,4-Dimethylphenol had low recovery in the control, spike and duplicate.

### NORTHERN LAKE SERVICE, INC. Analytical Laboratory and Environmental Services 400 North Lake Avenue - Crandon, WI 54520 Tel:(715)478-2777 Fax:(715)478-3060

Project Description: NSP 05644-088 Project Title: MSN-R-0899-0256 Dames & Moore Attn: Dave Tranior 25 Kessel Court Suite 201 Madison, WI 53711

Client:

ANALYTICAL REPORT

PAGE: 15 NLS CUST# NLS PROJECT# 49882 8608

### NORTHERN LAKE SERVICE, INC. Analytical Laboratory and Environmental Services 400 North Lake Avenue - Crandon, WI 54520 Tel:(715)478-2777 Fax:(715)478-3000

Client:

PAGE: 16 NLS PROJECT# 49882

NLS CUST#

8098

ANALYTICAL REPORT

Project Description: NSP 05644-088 Project Title: MSN-R-0899-0256 Dames & Moore Attn: Dave Tranior 25 Kessel Court Suite 201 Madison, WI 53711

Sample ID: MW-9 NLS#: 210543
Ref. Line 3 of COC 39323 Description: MW-9
Collected: 08/26/99 Received: 08/27/99 Report Reported: 09/24/99

Parameter   Result   Units   LOD   LOQ   Method   Analyzed Lab								_
Units  Units  LOD  Ug/L		Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C	Lead, dis. as RD Dy ICP Nickel, dis. as Ni by ICP Zinc. dis. as Zn by ICP	Iron, dis. as Fe by ICP	Copper, dis. as Cu by ICP	Arsenic, dis. as As by ICP Chromium, dis. as Cr by ICP	Parameter	66:11:11:11:11:11:11:11:11:11:11:11:11:1
LOD LOQ  4.2 15 0.42 1.5 0.47 1.7 0.013 0.043 0.0010 0.0035 1.4 5.1 0.66 2.3 12 12	Additional Com	yes see attached	< 2.0 > ND	< 2.3 >	0.69	VD ND ND ND ND ND ND ND ND ND ND ND ND ND	Result	
LOD LOQ  4.2 15 0.42 1.5 0.47 1.7 0.013 0.043 0.0010 0.0035 1.4 5.1 0.66 2.3 12 12	ments: 2,4-Dimeth		ug/L	ug/L	mg/L	ng/L ng/L	Units	
Method Analyzed Lab  SW846 6010 09/21/99 721026460  SW846 6010 09/21/99 721026460  SW846 6010 09/21/99 721026460  SW846 6010 09/21/99 721026460  SW846 6010 09/21/99 721026460  SW846 6010 09/21/99 721026460  SW846 6010 09/21/99 721026460  SW846 6010 09/21/99 721026460  SW846 6010 09/21/99 721026460  SW846 6010 09/21/99 721026460  SW846 310 08/28/99 721026460  SW846 0010 09/21/99 721026460  SW846 0010 09/21/99 721026460  SW846 0010 09/21/99 721026460  SW846 0010 09/21/99 721026460  SW846 0010 09/21/99 721026460  SW846 0010 09/21/99 721026460  SW846 0010 09/21/99 721026460	ylphenol had lo							
### Analyzed Lab  #### 6010 09/21/99 721026460 #### 6010 09/21/99 721026460 ###################################	recovery	ထား ညာ						
malyzed Lab  19/21/99 721026460  19/21/99 721026460  19/21/99 721026460  19/21/99 721026460  19/21/99 721026460  19/21/99 721026460  19/21/99 721026460  19/21/99 721026460  19/21/99 721026460  19/21/99 721026460  19/21/99 721026460  19/21/99 721026460	in the	WB46 1	W846 6010 ( W846 6010 ( W846 3510 (	W846 6010 C	PA 335.4 ( W846 6010 (	W846 6010 C	ethod P	
	14 14	09/11/99/721026460/	09/21/99 721026460   08/28/99 721026460	09/21/99 721026460	09/01/99 721026460	09/21/99 721026460 19/21/99 721026460	Analyzed Lab )9/21/99 721026460	

control, spike and duplicate. Naphthalene & 2-methylnaphthalene should be considered estimated values because the concentration exceeds the high end of the calibration curve.

### NORTHERN LAKE SERVICE, INC. Analytical Laboratory and Environmental Services 400 North Lake Avenue - Crandon, WI 54520 Tel:(715)478-2777 Fax:(715)478-3060

Client:

Dames & Moore
Attn: Dave Tranior
25 Kessel Court
Suite 201
Madison, WI 53711

ANALYTICAL REPORT

PAGE: NLS PROJECT# 49882

NLS CUST#

8098

Arsenic, dis. as As by ICP Chromium, dis. as Cr by ICP Copper, dis. as Cu by ICP Cyanide, tot. (distilled) as CN Iron, dis. as Fe by ICP Iron, dis. as Fe by ICP Lead, dis. as Pb by ICP Nickel, dis. as Ni by ICP Sinc, dis. as Zn by ICP Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C Project Description: NSP 05644-088 Project Title: MSN-R-0899-0256 Parameter Sample ID: MW-9A NLS#: 210544
Rel. Line 4 of COC 39323 Description: MW-9A
Collected: 08/26/99 Received: 08/27/99 Reported Reported: 09/24/99 Result ND ND 0.52 0.36 0.17 2.6 > ND ND Additional Comments: 2,4-Dimethylphenol had low recovery in the control, spike and duplicate. yes see attached 1/6n mg/r mg/r mg/r ng/r ng/r Units 4.2 0.42 0.47 0.0064 0.0010 1.4 0.66 801 15 1.5 1.7 0.021 0.0035 5.1 2.3 SW846 6010 09/21/99 721026460
SW846 6010 09/21/99 721026460
SW846 6010 09/21/99 721026460
EPA 335.4 09/01/99 721026460
SW846 6010 09/21/99 721026460
SW846 6010 09/21/99 721026460
SW846 6010 09/21/99 721026460
SW846 6010 09/21/99 721026460
SW846 3510 08/28/99 721026460
SW846 3510 08/28/99 721026460
SW846 3510 08/28/99 721026460
SW846 3510 08/28/99 721026460

Analyzed

NORTHERN LAKE SERVICE, INC. Analytical Laboratory and Environmental Services 400 North Lake Avenue - Crandon, WI 54520 Tel:(715)478-2777 Fax:(715)478-3060

Client:

ANALYTICAL REPORT

PAGE: 18 NLS PROJECT# 49882

NLS CUST#

8098

Dames & Moore
Attn: Dave Tranior
25 Kessel Court
Suite 201
Madison, WI 53711

Project Description: NSP 05644-088 Project Title: MSN-R-0899-0256

Sample ID: MW-13 NLS#: 210545  Ref. Line 5 of COC 39323 Description: MW-13  Ref. Line 5 of COC 39323 Description: MW-13						•
Collected. Our color	Result	Units	TOD	DOT	Method	Analyzed Lab
Parameter			<b>b</b>		SW846 6010	09/21/99 721026460
Arsenic, dis. as As by ICP	<b>S S</b>	ug/L	0.42	1.5	SW846 6010	09/21/99 721026460
Chromium, dis. as Cr by ICP	Z Z	ug/L	0.47		SW846 6010	n9/01/99 721026460
Copper, dis. as Cu by ICE Cvanide, tot. (distilled) as CN	0.11	mg/L	0.0010		SW846 6010	SW846 6010 09/21/99 721026460
Iron, dis. as Fe by ICP	ND 3	ug/L	1.4		0109 978MS	09/21/99 721020400
Lead, dis. as PD by ICP	CIN	ug/L	12	12	SW846 6010	09/21/99 721026460
Zinc. dis. as Zn by ICP	: N	# /6n			SW846 3510	08/28/99 /21026460
Base/Neutral/Acid Extraction	see attached				SW846 8270C	09/11/99 /21020400
	Additional Comm	Additional Comments: 2,4-Dimethylphenol had low recovery in the control spike and duplicate. Naphthalene concentration should be	henol had l	entration	nol had low recovery in the considered lene concentration should be considered	onsidered
	an estimate beca	an estimate because the value exceeds	s che mign			
Values in brackets represent results greater than the LOD but less than the LOQ and are within a region of "Loss-Certain Quantitation".  Values in brackets represent results greater than the LOD but less than the LOQ and are within a region of "Loss-Certain Quantitation".	the LOD but less t in the region of "	han the LOQ and are Certain Quantitation	within a re	gion of "L	ess-Certain	Quantitation".
	till a Constitution	ND = Not Detected				

LOD = Limit of Detection DWN Dry Weight Rasis

IOQ = Limit of Quantitation NA - Not Applicable

ND = Not Detected %DWB = (mg/kg DWB)/10000

Reviewed by: Jum R. Cum

Authorized by: R. T. Krueger Laboratory Manager

ANALYTICAL RESIDES. VIA HOST LIBE by EPA HSGO (Saturn 2) rapes  $\boldsymbol{\beta}$ 

Chalonner: Lanes & Moore
Project Description: NGP - Project Title: 05644-088
Northern Lake Service Project Number: 49882

	FACTOR	1/60 100	ug/1
Name	100	ŝ	150
	400	130	460
	400	110	370
	<b>+</b> 00	67	220
Isopropylbenzene Nij	400	110	380
oluene	400	91	310
	400	100	360
n-Propylbenzene ND	<b>4</b> 00	97	3 30
Ache	400	66	220
	400	100	350
	400	100	340
enzene	400	190	650
Surrogate Recovery on Dibromofluoromethane = 112 %			
Surrogate Recovery on Toluene-d8 = 112 \$			
Surroyate Recovery on 1. Bromo-4-Fluorobenzene = 114 %			

## ANALYTICAL RESULTS: VOC 8021 List by EFA 8250 (Saturn 2) Fage: 2

Customer: Dames & Moore
Project Description: NSP Project Title: 05644 088
Northern Lake Service Project Number: 49882

Analyte	210382 MW 10	PACTOR	1.010	15/1. OO:
Name	u <u>1/E</u> u	FAN TOK	0.11	0 12 2 7
Benzene	3		=	<u>-</u>
n Intylbenzeur		-	0 /	0.34
mg hitythenerin	3	_	0.17	0.55
lsopropylbenzene	2	_	0.27	0.94
p-1sopropyltoluene	. 0 67 .		0.23	0.78
Naphthalene	ZD :	_	0.26	0.90
n-Propylbenzene	Z	_	0.24	0.84
ortho-Xylene	<u> </u>	_	0.16	0.1.4
Toluene	NIC :		0.25	O. HH
1, 2, 4 Trimethy Denzelle	<u>z</u> :	_	0.25	0.86
1,3,5-Trimethylbenzene	UN	٢	0.47	1.6
Surrogate Recovery on Dibromofluoromethane = 102 t Surrogate Recovery on Toluene-d8 = 100 t Surrogate Recovery on 1-Bromo-4-Fluorobenzene = 104 t	2 *			

## ANALYTICAL RESULTS: VOC 8021 Last by 1375 8760 (Saturn 2) Page: 1

Customer: Dames & Moore Project Description: NSP Project Title: 05644 088 Northern Lake Service Project Number: 49882

	STOTES MW C	NOTLECTED	1,01,	T Č
Milatyre		No.i. Wei	₩1/1.	÷./.
Name		<b>-</b> .		- i
Benzene	25			
n-Bury]henzene	젊	_	0. 11	
The thirty bearing	N.	-	0.27	0.94
Sec - purly themselve	•	-	1.	<b>5</b>
Isopropylbenzene	NO			
p-Isopropyltoluene	Z.	•		
Naphthalene	N.		0.23	2
n Prony henzene	Z.	-	0.34	5
cetter Yellians	N.	-	0.24	<b>0</b> 3.
Tolling affects	<b>E</b>	_	0.10	۵. ¹. <u>.</u>
Totale	20	-	0.25	S . E
1, 2, 4 - It imetry a penzence		•	-	>
1,3,5 Trimethylbenzene	NIC			
meta, para-Xylene	NU	-	0.47	1.0
Surrogate Recovery on Dibromofluoromethane = 113 %	w			
Surrogate Recovery on Toluene-d8 = 107 %				
Surrogate Recovery on 1-Bromo-4-Fluorobenzene = 112 1	112			

ANALYTICAL RESULTS: Voc 8021 List by EPA E250 (Eathern 2) Rage: 4

Customer: Dames & Moore
Project Description: NSP Project Title: 05.44 OHB

777		
- !	ב ב	= : = :
		- :
_	0.33	
	0.27	0.9
_	0.17	0.5
-	0.27	0.9
_	0.23	0.7
_	0.26	0.9
-	0.24	0 . U
<b></b>	0.16	0.5
_	0.25	88.0
_	0.25	0.86
_	0.47	1.6

### ANALYTICAL RESULTS: VOC 8021 List by EPA 8260 (Saturn 2) Paper 5

Chistomer Damen & Moore Project Denoraphons NGP - Project Title 05644 000 Northern Lake Service Project Number: 49882

210 BG True Hlank	NOTTELLE	100	Ş
Analyte	FACTOR:	1/61	
Name Mark	:	0.33	1.1
n-Butylbenzene NI)	_	0.3.7	0 94
sec-Butylbenzene Ni	٠ -	0 1:1	0.39
1,1-Dichloropropene	-	0.17	0.56
Isopropylbenzene NII		0.27	0.94
p-lsopropylcoluene Nn		0.23	0.78
Naphthalene NI)		0.26	0.90
n-Propy Lenzene	_	0.24	0 15-1
ortho-xyrene	_	0.10	0 1.1
Toluene	_	0	0.88
1, 2, 4 Trime hypothesis	_	O. 24,	0.86
1, 3, 5 TrimeLhylbenzene	-	0.47	1.6
bull ogace seconds on management is a			
Bullogate vectores on vorces of			

ABALTITICAL MESHETS: VOCTS by EPA 8021 - Moder (CXB) Page: 1

Customer: Dames & Moore
Project Description: NSP Project Title: 05644 088
Northern Lake Service Project Number: 49882

210375 MW-5A	NOTTILL	500	100
	FACTOR	io/i.	va/i
1/6n	FACTOR	100	, L.
14000	1000	240	840
, 870 >	1000	340	1200
	1000	280	9.60
NU	1000		,
N.C	1000	230	8/0
N.	1000	560	190
3200	1000	250	860
NO	1000	270	930
N E	1000	470	1600
1800	1000	240	820
	1000	270	920
N		, ,	010
ND	1000	270	930
< 670 >	1000	500	1.70
Surrogate Recovery on 2-Bromochlorobenzene-PID = 100 \			
	210375 MH 5A  19/L 14000   870  ND  ND  ND  ND  1800  ND  ND  1800  ND  ND  ND  ND  ND  ND  ND  ND  ND	210375 MM 5A DILUTION 210375 MM 5A DILUTION 214000 14000 1000  2 870 > 1000  ND 1000	0375 MM 57 

### AHADATATAL INSURATS. VORTH BY DAY MOST . March (CXD) Pages 2

Customer: Dames & Moore
Project Description: NSP Project Title: 05644-088
Northern Lake Service Project Number: 49882

ug/L
1
240
340
280
250
560
21,0
270
470
240
270
270
500

ABALTTICAL RESULTS: Volts by EFA Boot. Mater (CXB) Page:  $\bar{\nu}$ 

Customer: James & Morre Project Description: NSP Project Title: 05644-088 Northern Lake Service Project Number: 49882

Analyte	F. 100 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	E A CHICAGO	5	_
Name	,i75a	FACTOR	19/1	
Henzene	00081	2000	480	
n-But wilhonzene	NO	2000	080	
n out I because	N.	2000	560	
Sec. Bur A 1 Delizerie		3000	700	
1sopropyIbenzene	= =	9 (		
p.lsopropyltoluene	ND	2000	1100	
Naphthalene	3100	2000	500	
n. Propylbenzene	ND	2000	540	
ortho-Yvlene/Styrene	. ND	2000	950	
To luone	5100	2000	480	1600
1 2 4 Trained hylbenzene	N	2000	530	_
1.3.5 Trimethyllamzene	N	2000	1,40	1900
	Ni	2000	1000	3400

ANALYTICAL RESIDENCE VOCUS by EFA 80.1  $^{\circ}$  Match (CXII) there 4  $^{\circ}$ 

Customer: Lames & Moore Project Title: 05644-088 Project Description: NSP - Project Title: 05644-088 Northern Lake Service Project Number: 49882

FACTOR
_
_
- •
-
_
-
_
-
_
-
-
-

1.00 1.92/1. 1.84 1.2 0.96 0.87 1.9 0.86 0.93 1.6 0.93

MALYTICAL RESULTS: VOC's by EFA 8021 - Water (CXB) Page:  $^{6}$ 

Customen: Dames & Moone Project Description: NSP Project Tille: 05644:088 Northern Lake Service Project Number: 49882

2-Bromochlorobenzene-PID = 102 1 2-Bromochlorobenzene-HECD = 103	1,2,4 Trimethylbenzene	To) uene	ortho-Kylene/Styrene	n Propylhenzone Nii	Naphthalene	ne	ne	n-Butylbenzene Nij	;ne		Analyte part	# WM SCIOICS	Northern Lake Service Project Number: 49882
	1 0.27 0.93	1 0.27 0.92		1 0.47 1.6	1 0.27 0.93	1 0.25 0.86			1 0.34 1.2	0.24	FACTOR 119/1.	OFFI NOTAPITAL	

ANALYTICAL RESULTS: VOC'S by EPA BOZI - Water (CXB) Page: 6

Customer: Dames & Moore Project Description: NSP Project Title: 05644-088 Northern Lake Service Project Number: 49882

Analyte Name Benzene n. Butylbenzene sec.Butylbenzene 1sopropylbenzene p. 1sopropylbenzene p. 1sopropyltolucu Maphthalene n. Propylbenzene ortho. xylene/Styl Toluene 1,2,4. Trimethylbe meta, para. Xylene Surrogate Recoves	Northern
Analyte 2103  Name 20/1  Benzene 10/1  n. Butylbenzene 10/1  secButylbenzene 10/1  Isopropylbenzene 10/1  p.lsopropylbenzene 10/1  p.lsopropylbenzene 10/1  p.lsopropylbenzene 10/1  n.propylbenzene 10/1  ortho-Xylene/Slytene 11/2,4-Trimethylbenzene 11/2,4-Trimethylbenzene 11/2,4-Trimethylbenzene 11/3,5-Trimethylbenzene 11/3,5-Trimethylbenzene 11/3,4-Trimethylbenzene Northern Lake Service Project Number: 45862	
210380 MW BA  \( \frac{\omega_{L}}{16000} \)  \( \text{ND} \)	77004
PACTOR PACTOR 2000 2000 2000 2000 2000 2000 2000 20	
100 100 1100 1100 1100 100 1000 1000	
100 1700 2300 1700 1700 1700 1700 1700 1600 1800 1800 1900	

ANALYTICAL RESULTS: VOCTS by ETA BOTT. Water (CMO) Page:  $\boldsymbol{\mathcal{T}}$ 

Customer: Dames & Moore Project Description: NSP Project Title: 05644-088 Northern Lake Service Project Number: 49882

MOLECUCIA BURE SCHOOL CONTRACT CONTRACT CONTRACT				
	210381 MW-11	DILUTION	1,00	Į Q
To C		FACTOR	1/1 <u>0</u>	1/15
ND	NO.	-	0.24	0.84
	N.	-	0.34	1.2
n-Butylbenzene	2			9 .
sec.Butylbenzene	ND	_	0.28	0.96
Isopropylbenzene	ND	-	0.25	0.87
p-lsopropyltoluene	ND	_	0.56	1.9
	NC	_	0.25	0.86
ene	NO		0.27	0.93
ortho-Xylene/Styrene	ND	₩	0.47	1 6
Toluene	N.	-	0.24	0 82
1 2 4 Translip hearing	700	-	0 27	0 37
1. 1. The live has been zene	20		0.27	0.94
meta para Xylene	ND	_	0.50	1.7
Surrogate Recovery on 2-Bromochlorobenzene-PID = 99.0 %	•			
Surrogate Recovery on 2-Bromochlorobenzene-HECD = 102 %	•			

Adalaytical desires. Voits by LFA nort. Writer (CXK) . Perp. . If

Customer: Exwes & Moore
Project Duscraption: NSP - Project Title: 05644-088
Northern Lake Service Project Number: 49882

NOTTURIE	1001	500
FACTOR	·1/Ed	ij/5ii
-	0.24	0.84
J	0.34	1.2
-	0.28	0.96
_	0.25	0.87
_	0.56	1.9
	0.25	0.86
٣	0.27	0.93
1	0.47	1.6
	0.24	0.82
-	0.27	0.92
_	0.27	0.93
1	0.50	1.7
210383 MW 10A  MD  ND  ND  ND  ND  ND  ND  ND  ND  ND		FACTOR  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

# AHALYTICAL RESULTS: Semi-Volatile Organic Compounds by EPA 82700 Page: 1

Customen: Dames & Moore Project Description: NSP 05644-088 Project Title: MSN-R 0899-0256 Northern Lake Service Project Number: 49882

A	A	ND     1.01       1.2.3 - cd pyrene     ND       1.0.1     10.1       1.0.1     180       1.0.1     120       1.0.1     120       1.0.1     10.1       1.0.1     1.01       1.0.1     1.01       1.0.1     1.01	ND   1.01   1.	(2, 3 - cd) pyrene ND 1.01 1.01 1.01 1.01 1.01 1.01 1.01 1.0	, 2, 3 - cd pyrene ND 1.01 napht hadene 200 10.1 phenol 10.1	,2,3-cd)pyrene ND 1.01 naphthalene 200 10.1	, 2, 3 - (rd) pyrene ND 1.01	ND 1.01	No	< 1.5 >		ene no 10 1	1.0	N. 1. 01	zy i primatane	2	ND 1.01	ND 1.01	nthene ND 1.01	ND 1.01	thracene NO 1.01	< 1.8 > 1.01	15 1.01	phthene 22 1.01	ug/L FACTOR	_	( ) 1 ) 10.42		10.42	ahenol 1900 10.42	ND 10.42	250	10.42	200	10 42	ND 10 42	CHE NO TO THE	ylphthalate ND 10.742	NO	ND NO. 10. 14 N	NO 10 10 10 10 10 10 10 10 10 10 10 10 10	10.47	nthene Ni	NC 10 41	thracene	\(\frac{1}{2}\) \(\frac{1}2\) \(\frac{1}{2}\) \(\frac{1}2\) \(\frac{1}2\) \(\frac{1}2\) \(\frac{1}2\) \(\fraca	ne ne 10.42	aphthene 230 10.42	7/50	4 MM 5
			7.7	66	6	ψ.	w	UT.	70	 . 90	ξ.	_	. 70	.7	. 69	.1	·	· K					ه ر	. 4	175	9	~	٠	=	50	50	•	,	· ·		ָב י	· i	<b>,</b>	`,	<b>-</b> `				7	•	٠			Ę	

### ABALYTICAL RESULTS: Semi-Volatile Organic Compounds by ETA 0270C Eage: 2

Customer: Dames & Moore
Project Description: NSP 05544 0HB - Project Title: MSN k 0899-0256
Northern Lake Service Project Number: 49882

210375 MW-5A	DILUTION	1.00	001
17bn	FACTOR	1/6n	<u>176ñ</u>
210376 MW 5A Dup	DILLUTION	. 001	Ş
mg/1.	NOT NO	11/Fi	1/Eu
22	1.02	1.	
16	1.02	-	. <b>.</b>
< 1.8 >	1.02	1.2	3.8
ND	1.02	0.78	2.1
ND	1.02	1.2	4.1
ND	1.02	0.65	2.1
ND	1.02	1.2	A . 0
ND	1.02		
ND	1.02		, L
ND	1.02	0.69	2.2
ND	1.02	1.7	, c
ND .	1.02	0. /0	
550	10.2	91	100
< 1.6 >	1.02	0.68	, N.
ND	1.02	1.1	) L
ND	1.02	0.70	2 2
170	10.2	15	
210	10.2	: =	1 da
140	10.2	15	51
1700	10.2	16	, U
7.2	1.02	0.66	
8.3	1.02	0.78	
ND	1.02	1.3	4.4
•			
malyte  Manne  M	210375 MW-5A  210376 MW-5A Dup  12/1. 210376 MW-5A Dup  12/1. 210 210 210 210 210 210 210 210 210 210	. Depty	DILUTION FACTOR  PACTOR  DILITION FACTOR  1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.0

### ANALYTICAL RESULTS: Semi Volatile Organic Compounds by EPA 82700 Rage: 4

Customer: Dames & Moore Project Description: NSP 05644-088 - Project Title: MSN R-0899-0256 Northern Lake Service Project Number: 49882

FACTOR	17/6n 100
FACTOR	17kn
10.2	14
10.2	14
10.2	7. A
10.2	12
10.2	6.5
10.2	12
10.2	: 5
10.2	6.2
10.2	17
10.2	7.0
102	310
10.2	- o
10.2	7.0
10.2	15
102	130
201	150
10.2	6.6
102	78
	:
DILUTION	1600
FACTOR	1.4/
1.03	1.4
1.03	1.2
1.03	2 8
1.03	0.66
1 01	-
03	
1.03	0.70
1.03	1.7
1.03	0.71
1.03	3.2
	- 0
1.03	0.71
1.03	s
1.03	
1.03	- L.
1.03	0.67
1.03	0.78
1.03	1. 1
	10.2 10.2 10.2 10.2 10.2 10.2 10.2 10.2

ARALYTICAL RESULTS. Semi-Volatile tripuis compounds by EPA B2700  $^{\circ}$  Page: 4

Customer: Dames & Moore
Project Description: NSP 05644 OBB Project Title: MSN R 0899 0256
Northern Lake Service Project Number: 49882

Analyte	210378 MW 5C	NOLLIPTION	10D	<b>QQ.</b>
Name	1,75n	FACTOR	175ñ	ii75ii
Analyte	210379 MW 8	DILUTION	TOD	ρου
Name	<u>17/6</u>	FACTOR	1/6n	1/bii
Acenaphthene	ND	1.27	1.7	5.7
Acenaphthylene	UN	1.27	1.7	5.7
Anthracene	ND	1.27	1.5	4.8
Benzo (a) anthracene	ND	1.27	0.97	2.6
Benzo(a) pyrene	ND	1.27	1.5	5.1
Benzo(b) fluoranthene	ND	1.27	0.81	2.6
Benzo (g, h, i) perylene	NU	1.27	1.5	5.0
Benzo(k)fluoranthene	ND	1.27	1.7	5.6
Butylbenzylphthalate	ND	1.27	1.9	4.5
Chrysene	ND	1.27	0.86	2.8
Din butylphthalate	NIC	1.27	2.1	6.9
Dibenzo(a, b) ant bracene	2	1.27	0.88	ki æ
2,4 Dimethylphenol	NII	1.27	3.9	Ξ
F) nor ant henc	NU	1.27	0. B5	2.7
Fluorene	ND	1.27	1.4	4.6
Indeno(1, 2, 3-cd) pyrene	ND	1.27	0.88	2.8
2 Methylnaphthalene	ND	1.27	1.B	6.1
2-Methylphenol	ND	1.27	1.7	5.6
3 & 4-Methyphenol	ND	1.27	1.9	6.1
Naphthalene	ND	1.27	2.0	6.5
Phenanthrene	NC	1.27	0.83	2.6
Phenol	NU	1.27	0.97	3.2
Pyrene	ND	1.27	1.6	5.5
Surrogate Recovery on 2 Fluorophenol = 60.1 %				
Surrogate Recovery on Phenol d5 = 42.8 %				
Surrogate Recovery on Nitrobenzene-d5 = 81.9 1				
Surrogate Recovery on 2 Fluorobiphenyl = 83.9 1				
Surrogate Recovery on 2,4,6 Tribromophenol * 82.3	•			
Surrogate Recovery on Terphenyl d14 * 85.3 %				

ADMITTICAL RESULTS: Semi Volatile Organic Compounds by EPA 8270C Page: 5

Customer: Dames & Moore
Project Description: NSP 05644-088 Project Title: MSN R 0899-0256
Northern Lake Service Project Number: 49882

Analyte	210380 MW 11A	NOTARTIC	100
Name	m3/1.	FACTOR	1/5n
Acenaphthene	ND	1.16	1.6
Acenaphthylene	NE	1.16	1.6
Anthracene	ND	1.16	1.4
Benzo[a] anthracene	ND	1.16	0.88
Benzo (a) pyrene	N)	1.16	1.4
Benzo(b) fluoranthene	ND	1.16	0.74
Benzo(g,h,i)perylene	UID	1.16	1.4
Benzo (k) f luoranthene	NE	1.16	1.5
Butylbenzylphthalate	Ni	1.16	1.2
Chrysene	ND	1.16	0.79
Di-n-butylphthalate	ND	1.16	1.9
Dibenzo(a,h)anthracene	ND	1.16	0.80
2,4-Dimethylphenol	210	11.6	36
Fluoranthene	ND	1.16	0.78
Fluorene	ND	1.16	1.3
Indeno[1,2,3 cd]pyrene	ND	1.16	0.80
2-Methylnaphthalene	ND	1.16	1.7
2 · Methylphenol	210	11.6	15
3 & 4-Methyphenol	210	11.6	17
Naphthalene	110	11.6	18
Phenanthrene	ND	1.16	0.75
Phenol	120	11.6	H . 8
Pyrene	ND	1.16	1.5
Surrogate Recovery on 2-Fluorophenol = 54.8 %			
Surrogate Recovery on Phenol-d5 = 41.6 %			
Surrogate Recovery on Nitrobenzene-d5 = 80.8	•		
Surrogate Recovery on 2-Fluorobiphenyl = 79.0 (			
Surrogate Recovery on 2,4,6-Tribromophenol - 80.5 %	30.5 1		
Surrogate Recovery on Temphenyl-d14 = 74.8 1			

ANALYTICAL RESHLTS: Semi-Volatile Organic Compounds by EPA 8270C Page:  $\sigma$ 

Customer: Dames & Moore
Project Description: NSP 05644-088 Project Title: MSN-R-0899 0256
Northern Lake Service Project Number: 49882

Surrogate Recovery on 2-Fluorophenol = 55.1 % Surrogate Recovery on Phenol d5 = 13.3 % Surrogate Recovery on Nitrobenzene dc = 81.1 % Surrogate Recovery on 2 Fluorobiphenyl = 81.6 % Surrogate Recovery on 2.4.6-Tribromophenol = 78.9 % Surrogate Recovery on Terphenyl-d14 = 90.2 %	Pyrone	Phenanthrene	Naphthalene	3 & 4-Methyphenol	2 Methylphenol	2 Methylnaphthalene	Indeno[1,2,3-cd]pyrene	Fluorene	Fluoranthene	2,4-Dimethylphenol	Dibenzo (a, h) anthracene	Di-n-butylphthalate	Chrysene	Butylbenzylphthalate	Benzo[k]fluoranthene	Benzo(g,h,i perylene	Benzo [b] fluoranthene	Benzo (a) pyrene	Benzo(a) ant hracene	Anthracene	Acenaphthylene	Acenaphthene	Name	Analyte
•	N (	N O	ND	ND	ND	ND	ND	ND	ND	No.	ND	CIN	ND	ND.	ND	ND	CIN	<u> </u>	N.	NU	ND	ND	1/bn	210381 MW-11
	<b>-</b> .		. 🗀	-	-	-	_	_	_	-		-	_	_	_	-	_	-	_	_	_	_	FACTOR	DILUTION
	1.3	0.65	1.5	1.5	1.3	1.4	0.69	1.1	0.67	3.1	0.69	1.6	0.68	1.1	1.3	1.2	0.64	1.2	0.76	1.2	1.4	1.3	1 <u>/</u> 1	100
	 	2.5	5.2	5.0	4.4	<b>4</b> . <b>8</b>	2.2	3.6	2.2	10	2.2	5.5	2.2	3.5	4.4	3.9	2.1	4.0	2.1	1.7	4.5	4.5	176n	ω

# ANALYTICAL RESULTS: Semi-Valatile Organic Compounds by EFA 62700 rage: $\boldsymbol{\tau}$

Customer: Dames & Moore
Project Description: NSP 05644-088 Project Title: MSN-R-0899 0256
Northern Lake Service Project Number: 49882

Analyte	210382 MW:10	NOITULID	100
Name	1/6n	FACTOR	17.
Acenaphthene	ND	-	1.3
Acenaphthylene	ND	_	1.4
Anthracene	NID	_	1.2
Benzo (a) anthracene	ND	_	0.76
Benzo (a) pyrene	ND	_	1.2
Benzo(b) fluoranthoue	<u>N</u>	_	0.64
Benzo(g, h, i) perylone	ND	_	
Benzo (k) f Luorant bene	25		
But y lbenzy l plit halate	ž	_	-
(To yearne	N		0.68
Drn butylphiladate	NU	_	1.6
Dibenzo (a, h) anthracene	N	-	0.69
2,4-Dimethylphenol	ND	<b></b>	
Fluoranthene	< 0.99 >	_	0.67
Fluorene	ND	_	1.1
Indeno[1,2,3-cd]pyrene	ND	_	0.69
2 Methylnaphthalone	ND	_	
2-Methylphenol	ND	_	1. 9
3 & 4-Methyphonol	ND	_	1.5
Naphthalene	ND	_	1.5
Phenanthrene	ND	-	0.65
Phenol	ND	_	0.76
Pyrene	ND	•	1.5
Surrogate Recovery on 2-Fluorophenol = 55.4 %			
Surrogate Recovery on Phenol-d5 = 33.8 %			
Surrogate Recovery on Nitrobenzene d5 = 78.4 %			
Surrogate Recovery on 2-Fluorobiphenyl = 79.3 %			
Surrogate Recovery on 2,4,6-Tribromophenol = 76.9 %	9 44		
Surrogate Recovery on Terphenyl-d14 = 89.5 %			

ABALYTICAL IDEALINE Same Velatile Organic Compounds by EPA BZ70C Page: 8

Customer: Dames & Moore
Project Description: NSP 05644-088 Project Title: MSN-R-0899-0256
Northern Lake Service Project Number: 49882

Analyte	210183 MW 10A	DILUTION	Б
Name	1 <b>/</b> 5ñ	FACTOR	1/6n
Acenaphthene	NC C	_	1.3
Acenaphthylene	ND	_	1.4
Anthracene	ND	_	1.2
Benzo[a]anthracene	ND	<b>.</b>	0.76
Benzo (a) pyrene	ND	_	1.2
Benzo[b] fluoranthene	CIN	_	0.64
Benzo[g,h,i]perylene	NU		1.2
Benzo[k][]uoranthene	NU	_	1.3
Butylbenzylphthalate	ND	_	1.1
Chrysene	ND	_	0.68
Di-n-butylphthalate	NO	-	1.6
Dibenzo (a, h) anthracene	N	-	0.69
2,4-Dimethylphenol	ND	-	3.1
Fluor ant hene	N	_	0.67
Fluorene	NO.	-	1.1
Indeno (1,2,3 cd) pyrene	No	-	0.69
2 Methylnaphthalene	ND	1	1.4
2 · Methylphenol	No	_	1.3
3 & 4-Methyphenol	ND.	_	1.5
Naphthalene	ND	-	1.5
Phenanthrene	ND	-	0.65
Phenol	ND	_	0.76
Pyrene	ND	1	1.3
Surrogate Recovery on 2 Fluorophenol = 43.8 1			
Surrogate Recovery on Phenol-d5 = 26.4 % Surrogate Recovery on Nitrobenzene-d5 = 81.2 %			
Surrespace Recovery on 2-Fluorobiphenyl = 79.4 %			
Survivial & Pecavaty on 2 4 6 Tribranciahonel = 78.6			

# ANALYTICAL RESULTS: Semi Volatile Organic Compounds by EFA #270C Page: 9

Customer: Dames & Moore Project Description: NSP 05644 0HB Project Title: MSN R 0899 0256 Northern Lake Service Project Number: 49882

	210384 MW 6	DILUTION	ω
Midlyce	ug/L	FACTOR	ug/L
Acenaphi hene	ND	_	1.3
Acenaphthylene	ND	-	
Anthracene	ND	_	. 2
Benzo (a) anthracene	ND	_	0.76
Benzo (a) pyrene	ND	_	1.2
Benzo(b) fluoranthene	ND		0.64
Benzolg,h,ilperylene	ND		1.2
Benzo(k)fluoranthene	E		
Butylbenzylphthalate	ND		) - -
Chrysene ·	NB	-	0.60
Di n-butylphthalate	ND		. 6
Dibenzo (a, h) anthracene	8	٠ ١=	. 64
2,4-Dimethylphenol	2		
Fluoranthene	ND		
Fluorene	ND		· -
Indeno[1,2,3-cd]pyrene	ND		0.69
2-Methylmaphthalene	ND	. ,_	· -
2 Methylphenol	ND		_
3 & 4 McChyphenol	NO		
Napht hadene	N	-	5
Phenanthrene	NU	1	0.65
Phenol	ND		0.76
Pyrene	ND	1	1.5
Surrogate Recovery on 2-Fluorophenol - 34.3 %			
Surrogate Recovery on Nitrobenzene-d5 = 70.2 %	•		
Surrogate Recovery on 2-Fluorobiphenyl - 72.8 1			
Surrogate Recovery on 2,4,6-Tribromophenol = 74.5 %	4.5 at		
Surrogate Recovery on Terphenyl-dl4 = 84.9 %			

# ANALYTICAL RESULTS: Semi Volutile Organic Compounds by EPA 8270C Page: 10

Customer: Dames & Moore Project Description: NSP 05644-088 Project Title: MSN-R-0899 0256 Northern Lake Service Project Number: 49882

411				
	210385 MW-6A	DILUTION	БD	001
Analyte	ug/L	FACTOR	1/6n	1/En:
Name	NO.	1	1.3	
Acenapht hone		-	_	
Accessibility Lence			-	
And his accenic	, 1.2 ×		0.76	2.1
Benzo (a) anthracene	3		1 7	
Benzo (a) pyrene	200	<b></b> 1	0.64	2.1
Benzo(b) (Luoranthene	< 0.02 V	.,	<b>-</b> :	
Benzo(g,h,i)perylene	2		ا ا	
Benzo [k] fluoranthene	3 8	<b></b> 1	1.1	<u>ب</u> ن
Butylbenzylphthalate	25	- '	0.68	
Chrysene	( 1 g )	-	1.6	5.5
Di-n-butyiphthalace		Ľ	0.69	
Dibenzo la , ni anchracene	No.	-	J. 1	10
2,4-Dimetry phenor	× 1.2 >	<b>,</b>	0.67	2.2
Fluoranchene		_	1.1	
Fluorene		_	0.69	
Indeno[1,2,3-cd]pyrene	ND	-	1.4	
2 Methylnaphthalene	S.	-	1.1	
2 Methylphenol		_	1.5	5.0
3 & 4 Methyphenol	N C	<b>-</b>	1.5	
Naphthalene	/ 0 65 >	-	0.65	2.1
Phenanthrene	NO CO	-	0.76	
Phenol		- 1	- -	
Pyrene	2	•	,	
Surrogate Recovery on 2-Fluorophenol = 53.7 %				
Surregate Recovery on Phenol-d5 = 33.8 %				
Surrespace Recovery on Nationalizatione d5 " 76.3 1				
Surrogate Recovery on 2-Fluorobiphenyl = 79.6	•			
Surrogate Recovery on 2,4,6 Tribromophenol = 73.6				
Surrogate Recovery on Terphenyl d14 = 101 %				

ANALYTICAL RESULTS: Semi Volatile Organic Compounds by EPA 82700

Project Description: NSP 05644-088 Project Title: MSN R-0899 0256 Northern Lake Service Project Number: 49882 Customer: Dames & Moore Project Description: NSP 05644-088

Pyrene
Surrogate Recovery c
Surrogate Recovery c
Surrogate Recovery c
Surrogate Recovery c
Surrogate Recovery c Chrysene
Di n butylphthalate
Dibenzola,hlanthracene
2,4-Dimethylphenol
Fluoranthene Acenaphthylene
Anthracene
Benzo (a) anthracene
Benzo (a) pyrene
Benzo (b) [fluoranthene
Benzo (b), fluoranthene
Benzo (k) fluoranthene
Butylbenzylphthalate 2-Methylnaphthalene 2-Methylphenol 3 & 4-Methyphenol Phenol Phenanthrene Naphthalene Indeno (1, 2, 3 -cd) pyrene Fluorene Name Acenaphthene ry on 2-Fluorophenol = 44.3 %
ry on Phenol - 45 = 39.2 %
ry on Nitrobenzene-d5 = 68.1 %
ry on 2-Fluorobiphenyl = 68.1 %
ry on 2.4,6-Tribromophenol = 61.1 %
ry on Terphenyl-d14 = 71.6 % 210540 MW-1 

ABALYTICAL RESULTS: Semi-Volatile Organic Compounds by EPA 0270C Page: 12

Customer: Dames & Moore
Project Description: NSP 05644 088 Project Title: MSN R-0899 0256
Northern Lake Service Project Number: 49882

Surrogate Recovery on 2-Fluorophenol = 45.2 % Surrogate Recovery on Phenol d5 = 39.7 % Surrogate Recovery on Nitrobenzene d5 = 64.3 % Surrogate Recovery on 2-Fluorohiphenyl = 58.7 % Surrogate Recovery on 2.4,6 Tribromophenol = 57.9 % Surrogate Recovery on Terphenyl d14 = 67.2 %	Pyrene	Phenol	Phenanthrene	Naphthalene	3 4 4 Methyphenol	2-Methylphenol	2 · Methylnaphthalene	Indeno(1,2,3 cd)pyrene	Fluorene	Fluorauthene	2.4 Dimethylphenol	Dibenzo [a, h] anthracene	Di-n butylphthalate	Chrysene	Butylbenzylphthalate	Benzo(k)fluoranthene	Benzolg, h, ilperylene	Benzo(b) fluoranthene	Benzo (a) pyrene	Benzo (a) anthracene	Anthracene	Acenaphthylene	Acenaphthene	Name	Analyte
•	ND	ND	ND GR	N	ND	ND	ND	NE	NO	NO	CIN	NU	CIN	ND	ND	ND	ND	< 1.7 >	ND	ND	ND	ND	ND	1/6n	210541 MW-2
	-	<b>~</b>	<b></b>	_	-	<b>-</b>	-	-	_	-	-	_	-	-	-	-	-	-	_	-	_	1	-	FACTOR	DILUTION
	1.3	0.76	0.65	1.5	1.5	1.3	1.4	0.69	1.1	0.67		0.69	1.6	0.68	1.1	. u	1.2	0.64	1.2	0.76	1.2	1.4	1.3	17/6n	100
	A . 3	2.5	2.1	5.2	5.0		4.8	2.2	3.6	2.2	10	2.2	5.5	2.2	3.5	4.4	3.9	2.1	4.0	2.1	3.7	4.5	4.5	176n	5

# ANALYTICAL RESULTS: Semi Volatile Organic Compounds by EPA 8270C Page: 13

Customer: Dames & Mexic Project Deneralphion. NSP 05644 0HB — Project Thile. MSR B 0855 0256 Northern Lake Service Project Number: 49802

Surrogate Recovery on 2-Fluorophenol = 34.2 % Surrogate Recovery on Phenol-d5 = 34.2 % Surrogate Recovery on Nitrobenzene-d5 = 67.0 % Surrogate Recovery on 2-Fluorobiphenyl = 61.3 % Surrogate Recovery on 2,4,6-Tribromophenol = 48.3 % Surrogate Recovery on Terphenyl d14 = 45.4 %	Pyrene	Phenol	Phenanthrene	Naphthalene	) & 4 McLhyphenol	2 Methylphenol	2-Methylnaphthalene	Indeno[1, 2, 3-cd]pyrene	Fluorene	Fluoranthene	2,4-Dimethylphenol	Dibenzo (a, h) anthracene	Di-n-butylphthalate	Chrysene	Butylbenzylphthalate	Benzo(k)fluoranthene	Benzo(g, h, i) perylene	Benzo (b) fluoranthene	Benzo (a) pyrene	Benzo (a) anthracene	Anthracene	Acenaphthylene	Acenaphthene	Name	Analyte
	ND	ND	ND	ND	NO	ND	ND	ND	ND	ND	ND	ND	GIN	ND	ND	NU	ND	< 1.4 >	NC	ND	ND	ND	ND	1/15n	210542 MW-2 Dup
	_	_	-	_		_	_	-	_	_	1	_	1	-	-	_	-	1		_			-	FACTOR	NOLLATIO
	1.3	0.76	0.65	1.5	1.5	 	1.4	0.69	1.1	0.67	3.1	0.69	1.6	0.68	1.1	1.3	1.2	0.64	1.2	0.76	1.2	1.4	1.3	ug/L	don.
	4.3	2.5	2.1	5.2	5.0	4.4	4.8	2.2	3.6	2.2	10	2.2	5.5	2.2	3.5		3.9	2.1	<b>4</b> .0	2.1	3.7	.5		1/bn	QO.

# ANALYTICAL RESULTS: Semi Volacile Organic Compounds by EPA 8270C Page: 14

Customer: Dames & Moore
Project Description: NSP 05644-088 Project Title: MSN-R-0899-0256
Northern Lake Service Project Number: 49882

Ругене	Phenol	Phenanthrene	Naphthalene	3 & 4-Methyphenol	2 Methylphenol	2 Methylnaphthalene	Indeno[1,2,3 cd]pyrene	Fluorene	Fluoranthene	2,4-Dimethylphenol	Dibenzo (a, h) anthracene	Di n butylphthalate	Chrysene	Butylbenzylphthalate	Benzo[k]fluoranthene	Benzo(g,h,i)perylene	Benzo[b] fluoranthene	Benzo (a) pyrene	Benzo[a] anthracene	Anthracene	Acenaphthylene	Acenaphthene	N.ame:	Analyte.	Pyrene	Phenol	Phenanthrene	Naphthalene	3 & 4 · Methyphenol	2 · Methylphenol	2-Methylnaphthalene	Indeno[1,2,3-cd]pyrene	Fluorene	Fluoranthene	2,4-Dimethylphenol	Dibenzo (a, h) anthracene	Di-n-butylphthalate	Chrysene	Butylbenzylphthalate	Benzo(k)fluoranthene	Benzolg, h, ilperylene	Benzo(b)fluoranthene	Benzolalpyrene	Benzo (a) anthracene	Anthracene	Acenaphthylene	Acenaphthene	Name	NATIONAL DESCRIPTION OF STATE	POSTS OF THE MOTOR OF THE POST WINDER AND A
NU	25	NC NC	4100	ND	ND	< 370 >	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	775	210544 MW 9A	2700	N. C.	7000	53000	ND	ND	20000	ND	ND	1900	NU.	NU	ND	1100	ND	2300	2200	2300	1200	1100	1800	2300	1800	ua/l.	210543 MW-9	
102	707	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	FACTOR	NOLLFIEL	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	FACTOR	MOLECTICA	
130	78	66	160	150	130	150	70	110	68	310	70	170	69	110	130	120	65	120	78	120	140	140	1750	(17.1	260	160	130	310	310	270	290	140	220	140	630	140	330	140	220	270	240	130	250	160	240	280	270	10/1	100	
440	260	210	530	510	450	490	220	370	220	1000	220	560	220	360	450	400	210	410	210	380	460	460	17/Fi	OOT	880	520	420	1100	1000	890	980	450	740	440	2100	450	1100	440	720	900	008	420	820	420	760	920	910	IIG/I.	<b>1</b> 8	

# ANALYTICAL RESULTS: Semi-Volatile Organic Compounds by EPA 8270C Page: 15

CUSLOWER: Dames & Moure Project Description: NSP 05644-088 Project Title: MSN-R 0899-0256 Northern Lake Service Project Number: 49882

Pyrene	Phenol	Phenanthrene	Naphthalene	3 & 4 · Methyphenol	2 · Methylphenol	2-Methylnaphthalene	Indeno[1,2,3 cd]pyrene	Fluorene	Fluoranthene	2,4 Dimethylphenol	Dibenzo (a, h) anthracene	Di-n butylphthalate	Chrysene	Butythenzylphthalate	Beuzo (k) Flaoranthene	Benzolg, b, ilperylene	Benzo [b] f luorani hene	Benzo (a) pyrene	Benzo (a) anthracene	Anthracene	Acenaphthylene	Acenaphthene	Name	Analyte
< 460 >	CIN	1300	14000	ND	ND	1900	ND	ND	750	<b>₹</b>	NU	NU	800	N.	N.	N.S.	NI	CIN	680	950	ND	< 650 >	176n	210545 MW-13
204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	FACTOR	DILUTION
260	160	130	310	310	270	290	140	220	140	630	140	330	140	220	270	240	130	250	160	240	280.	270	ug/1,	TOD
880	520	420	1100	1000	890	980	150	740	4 4 D	2100	450	1100	440	720	900	0.00	420	820	420	760	920	910	176n	ğoı

NO. 39313



EAL INTACT

YES HTO NO-

### NORTHERN LAKE SERVICE, INC.

Analytical Laboratory and Environmental Services

### SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

400 North Lake Avenue • Crandon, WI 54520-1298 Wisconsin Lab Cerr N 721626460 Tel: (715) 478-2777 • Fax: (715) 478-3060 DNR LICENSE FID == URN THIS FORM WITH SAMPLES. PROJECT TITLE MO01-2 P.O. NO. PROJECT NO. 201 + DORESS 088 05644 PHONE CONTACT 537// STATE CONTAINER PRESERVATIVE GRAB-COMP SAMPLE **COLLECTION REMARKS** PIND SAMPLE ID TIME DATE 125 11 1300 /z6d 8/211 1230 1/24 //30 PRESERVATIVES & PREPARATION CONTAINER OH = sodium hydroxide NP = nothing added P = plastic PROD=product DW=drinking water HA = hydrochloric & S = sulfuric acid SW-surface water G = glass SOIL=soil TIS=tissue ascorbic acid WW-wastewater V = glass vial N = nitric acid SED=sediment AIR-air H = hydrochloric acid Z = zinc acetate GW=groundwater B = plastic bag a lid filtered describe others describe others CUSTODY SEAL NO. (IF ANY) DATE TIME COLLECTED BY (signatures) 19/11/10 RECEIVED BY (signature) FELINQUISHED BY (signature) 14 1 1 S DATETIME RECEIVED BY (signature) =ELINQUISHED BY (signature) DATE/TIME METHOD OF TRANSPORT SPATCHED BY (signature) TEMP. CONDITION DATE/TIME: THE STATE OF THE STA ECEIVED AT NLS BY (signature) 8-11-99 10:00 1.1000 REMARKS & OTHER INFORMATION

The Land Desired Bridge

**一种种种种** 

<sup>1.</sup> TO MEET REGULATORY REQUIREMENTS. THIS FORM MUST BE COMPLETED IN DETAIL AND INCLUDED IN THE SHIPPER CONTAINING THE SAMPLES DESCRIBED 2. PLEASE USE ONE LINE PER SAMPLE, NOT PER BOTTLE.

<sup>3.</sup> RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.

### NORTHERN LAKE SERVICE, INC.

NO. 39318

Analytical Laboratory and Environmental Services

· 400 North Lake Avenue • Crandon, WI 54520-1298

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

Tel: (715) 478-27	77 • Fax: (715) 47	78-3060						11	iscons n Lat Cer	No. 727-25460
ETURN THIS FORM WITH SAMPLES.			DNR LICEN	iSE				FID		
LIENT DANS - MOORE			PROJECT	TITLE						
DDRESS 5 1 C/F	Su. Le 7	(01	PROJECTI	40. 44-	S	8	_	P O. NO	<b>)</b> .	
Mediser Wil	STATE Z	37//	CONTACT	Tran				PHONE	- 27	3-2886
EM NLS SAMPLE ID	DNA COUL		SAMPLE TYPE	GRAB/ COMP.		AINER P	RESER			ON REMARKS
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	ID DATE	1545	6hi	1	6	74	1/		000000	DIVINEMARKS
	4/24	<del></del>	1	(0	1	<del>/_</del>	/_			
- Name of the last		1530		1	+-	H	+		<del></del>	
1/2/04C-21 - 3-24   1		/300	-		+	<del>                                     </del>				
4. 15. 10. 10. 10. A		1200		j	+!-	-	<del>                                     </del>	ļ		
5. July 9/12 - 10 A		12:30			<del>                                     </del>		<del>                                     </del>			
6. PAC-EUP		1115	1	<del> </del>		-				
7 2000 610 - 610		180	i		11.	1	1		<del></del>	.5
8. 26%		-	10							···
9. 學的3			•							
O.										
11 2103 5										
2. 1400/										
SAMPLE TYPE: SW-surface water WW-wastewater GW-groundwater describe others  DW-drinking w TIS-tissue AIR-air	vater PROD=c: SOIL=so: SED=sec	1		P=; G=; V=; B=;	ITAINER plastic glass plass vial plastic ba scribe other	g	NP : S = :		acid HA = d tate H = h	ARATION sodium hydroxide hydrochloric & ascorbic acid ydrochloric acid coalillared
OLLECTED BY (signatures)	//·. <del>-</del>			4/2	USTODY	SEAL		ANY) [	DATE/TIME	15
ELINOUISHED BY (signature)	RECE	VED BY (signal	ture)			•	4/1	لوح	DATE/TIME	1500
ELINQUISHED BY (signature)	RECEI	VED BY (signar	ture)				//	/	DATE/TIME	
ISPATCHED BY (signature)	метно	DD OF TRANSI	PORT					(	DATE/TIME	
Darkin 1) loon	9.3	4E- ∻ (∧ • Q • 7)	101	<u>sc)   8</u>	IDITION へ いて		·			TEMP.
	REMARK Professor	S & OTHER IN	PORMATION	· · · · · · · · · · · · · · · · · · ·						

1. TO MEET REGULATORY REQUIREMENTS, THIS FORM MUST BE COMPLETED IN DETAIL AND INCLUDED IN THE SHIPPER CONTAINING THE SAMPLES DESCRIBED.

2. PLEASE USE ONE LINE PER SAMPLE, NOT PER BOTTLE.

<sup>3.</sup> RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.



### NORTHERN LAKE SERVICE, INC.

No. 39323

Analytical Laboratory and Environmental Services

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

400 North Lake Avenue • Crandon, WI 54520-1298

Tel. (713) 470-277	77 • Fax: (715) 4/8-3060	DNR LICENSE		FID
ETURN THIS FORM W.TH SAMPLES.				
CHENT (12012		PROJECT TITLE		
	1.te 201	PROJECT NO.	- C88-	P O. NO
Malison WI	STATE ZIP 5.37//	CONTACT	Transor	PHONE 2732886
TEM NLS SAMPLE ID	DNR COLLECTION ID DATE TIME	SAMPLE GRAB	CONTAINER PRESS	COLLECTION REMARKS
219<40	8/25 1630	6W 6	1 1 /	
2 2054	8/25 1700		11/	
3. 26513 /61 9	8/26 1045		111	
4 2405H	1 11/5		111	
5. 200545 / /3	V 1015	VV	/ / /	
6.			/	
7. STEPPEN				
8.	•	*		
9.				
10. A				
11. market 4				
2.		1 0	ONTAINER P	RESERVATIVES & PREPARATION
SAMPLE TYPE: SW=surface water WW=wastewater GW=groundwater  describe others //	PROD=product SOIL=soil SED=sediment	G V B	= plastic N = glass S = glass vial N = plastic bag Z describe others	P = nothing added Self-unitric acid Self-unitric acid Self-unitric acid Self-unitric acid Self-unitric acid Self-unitric acid Self-unitric acid Self-unitric acid Self-unitric acid
OLLECTED BY (signatures		91	PUSTOBY SEAL NO.	(IF ANY) DATETIME
ELINQUISHED BY (pignature)	RECEIVED BY MICH	ature)		DATETIME
ELINQUISHED BY (signature)	RECEIVED BY (signa	ature)	<del></del>	DATE:TIME
ISPATCHED BY (signature	METHOD OF TRANS	PORT		DATETIME
Talon a charle	8-27-49	16:11	ONDITION	TEMP.
EAL INTACT SEAL # Value in the seal # Value i	REMARKS & OTHER	NFORMATION Deep - 111 Social	x 100 2	

PORTANTE 1. TO MEET REGULATORY REQUIREMENTS, THIS FORM MUST BE COMPLETED IN DETAIL AND INCLUDED IN THE SHIPPER CONTAINING THE SAMPLES DESCRIBED.

2. PLEASE USE ONE LINE PER SAMPLE, NOT PER BOTTLE.

3. RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.

NO. 39315



### NORTHERN LAKE SERVICE, INC.

Analytical Laboratory and Environmental Services

### SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

400 North Lake	Avenue	• Crandon, WI 54520	-1298	0.1.1		_		:1	ricerin Lah Com N. 122	120400
Tel: (715) 478-7	2777 • Fa	x: (715) 478-3060	DNR LICEN	SE			į	::5		
ETURN THIS FORM WITH SAMPLES.			PROJECT	TTLE /	<del></del>					
LIENT / //OO	1-2		FROJECI	<u> </u>			<del>, ,</del>			
DDRESS //	1	2001	PROJECTA	10./1/.	- 05	8		9 O. NO.		
MS KESSELLE	STAT		CONTACT	Por	Tano	_		PHONE	-272.2	881
"THEASE " 1	<u>ال-</u>	COLLECTION	SAMPI E		CONT	AINER PI			COLLECTION RE	MARKS
EM NLS SAMPLE D	DNR :D	DATE TIME	SAMPLE TYPE	GRAB	77	112	1		332237737718	
1 PINEUS MIN-4		8/21 1330	60	16	-	1	r			
2. Shatelle		13/3		1!	- 1	1	/			
3. MOGET 111/2-4/3		1300	1-	11	+	1	1			
4 20648 111 3		1030	1 1	+!	<del>-   <u>/                                   </u></del>	1/	10	-		
5 ZINGSO MI / Z-D	7-	11750	1-1	+	1/2	1//	1	<del>                                     </del>		
6. 20051 17/1 - 14		1 /9/5	+	+	1	+	+	+-		
7. 210052 1 - 7A		8/26 /400	<del> </del>	<del> </del>		1-	+	+-	<del>                                     </del>	
8.		<del> </del>	<b>\</b>	+		+-	+-	+	<del>                                     </del>	
9.			<del> </del>	+		+	+-	+		
10.		<del> </del>	ļ <u> </u>			+-	+	+		
11. PARAMETER 1			<del> </del>	+		+-	+	$\top$		
:2.			1		CONTAINE	R R			ATIVES & PREPARAT	ION um hydroxid
. 344=3011200	iking water	PROD=product SOIL=soil		10	P = plastic G = glass	-1	S:	= sulfund	c acid HA = hydro	
WW=wastewater ID=(ISS) GW=groundwater AIR=air		SED=sediment			V = glass vi B = plastic l	bag		= nitric a = zinc ac		chloric acid
describe others	1 19				describe	_	L NO /	A NIV	DATETIME	
COLLECTED By (signatures)						<u> </u>		<u> </u>	. /GOU	<u> </u>
RELINQUISHED BY (sugnature)		RECEIVED BY (s	ionaturei		/ <	2/1	21	/in	DATETIME	2
Marke Stanfel		RECEIVED BY (s	ignature)		<del></del>	11/2	1		DATE/TIME	
RELINQUISHED BY (signature)					_/_				DATETIME	
DISPATCHED BY (signature)		METHOD OF TR	AND UNI			<u>'</u>				
RECEINED AT NLS BY (signature)	Profesion	DATE/TIME:	- IA	). Ó O	CONDITIO					EMP.
The state of	Cel	REMARKS & OTHE			1	À	<u>;;                                   </u>	-		anel
SEAL INTACT SEAL #	11. Det		- 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1	<u> </u>	<u>معالمم</u>		24	Ctu	ler Axe 8	130/95
	Tes	te canseller	1-64	Dave	Trai	201	61		1 31/99 - SA	

1. TO MEET REGULATORY REQUIREMENTS. THIS FORM MUST BE COMPLETED IN DETAIL AND INCLUDED IN THE SHIPPER CONTAINING THE SAMPLES DESCRIBE 2. PLEASE USE ONE LINE PER SAMPLE. NOT PER BOTTLE.

<sup>3.</sup> RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.

#### WIS. LAB CERT. NO. 721026460

400 North Lake Avenue - Crandon, WI 54520 Tel:(715)478-2777 Fax:(715)478-3060		ANALYTICAL REPORT	EPORT		PAGE: 1	CT#
Client: Dames & Moo: Attn: Dave ? 25 Kessel Conite 201 Madison, WI	Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711		·			PEOPINA IN
Project Description: NSP-Ashland Project Title: 05644-088	hland					SEP 1999
Sample ID: MW-1 NLS#: 21 Ref. Line 1 of COC 39319 Description: MW-1 Collected: 08/21/99 Rescrived: 08/31/99	NLS#: 210727 iption: MW-1 08/31/99 Reported: 09/22/99					
Parameter		Result	Units	LOD	DOT	Method Analyzed Lab
Sample ID: MW-2 NLS#: 21 Ref. Line 2 of COC 39319 Description: MW-2 Collected: 08/25/99 Received: 08/31/99	NLS#: 210728 iption: MW-2 08/31/99 Reported: 09/22/99					
Parameter		Result	Units	LOD	200	Method Analyzed Lab
VOCs (water) by EPA 8021		see attached				SW846 8021 09/02/99 721026460
Sample ID: MW-2 Dup NLS#: 2: Ref. Line 3 of COC 39319 Description: MW-2 Dup Collected: 08/25/99 Received: 08/31/99 Repo	NLS#: 210729 MW-2 Dup 99 Reported: 09/22/99					
Parameter		Result	Units	TOD	TOO	Method Analyzed Lab
VOCs (water) by EPA 8021		see attached		:		SW846 8021 09/02/99 721026460

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Tel:(715)478-2777 Fax:(715)478-3060

翌	
•	
PAGE:	
N	
SIR	
ECT#	
PROJECT# 49933	

WIS. LAB CERT. NO. 721026460

Tel:(715)478-2777 Fax:(715)478-3060	ANALYTICAL REPORT	REPORT		PAGE: 2	NLS PRO	NLS PROJECT# 49933
Client: Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Nadison, WI 53711					NLS CUST#	r# 8098
Project Description: NSP-Ashland Project Title: 05644-088						-
Sample ID: NW-3 NLS#: 210730 Ref. Line 4 of COC 39319 Description: MW-3 Collected: 08/27/99 Received: 08/31/99 Reported: 09/22/99						•
Parameter	Result	Units	TOD	001	Method	Analyzed Lab
Samples on hold	hold					09/20/99 721026460
Sample ID: NW-4 NLS#: 210731 Ref. Line 5 of COC 39319 Description: MW-4 Collected: 08/27/99 Received: 08/31/99 Reported: 09/22/99						
Parameter	Result	Units	ТОБ	001	Method	Analyzed Lab
Samples on hold	hold					09/20/99 721026460
Sample ID: MW-4A NLS#: 210732 Ref. Line 6 of COC 39319 Description: MW-4A Collected: 08/27/99 Recaived: 08/31/99 Reported: 09/22/99						
Parameter	Result	Units	dor	001 1	Method	Analyzed Lab
Samples on hold	ho1d					09/20/99 721026460

#### NORTHERN LAKE SERVICE, INC. Analytical Laboratory and Environmental Services 400 North Lake Avenue - Crandon, WI 54520

WIS. LAB CERT. NO. 721026460

Tel:(715)478-2777 Fax:(715)478-3060	ANALYTICAL REPORT	REPORT		PAGE: 3	NLS PROJE	NLS PROJECT# 49933
Client: Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711					NLS CUST#	8098
Project Description: NSP-Ashland Project Title: 05644-088						-
Sample ID: MW-4B NLS#: 210733 Ref. Line 7 of COC 39319 Description: MW-4B Collected: 08/27/99 Received: 08/31/99 Reported: 09/22/99	99					•
Parameter	Result	Units	TOD	001	Method	Analyzed Lab
Sample ID: MW-7A NLS#: 210734 Ref. Line 8 of COC 39319 Description: MW-7A Collected: 08/26/99 Received: 08/31/99 Reported: 09/22/99	99					
Paramotor	Regult	Units	LOD	ğori	Method	Analyzed Lab
Samples on hold	hold					09/20/99 721026460
Sample ID: MW-9 NLS#: 210735 Ref. Line 9 of COC 39319 Description: MW-9 Collected: 08/26/99 Received: 08/31/99 Reported: 09/22/99	99					
Parameter	Result	Units	LOD	TOO	Method	Analyzed Lab
VOCs (water) by EPA 8021	see attached				SW846 8021	SW846 8021 09/02/99 721026460

#### WIS. LAB CERT. NO. 721026460

#### ANALYTICAL REPORT

PAGE: 4 NLS CUST# NLS PROJECT# 49933 8608

Project Description: NSP-Ashland Project Title: 05644-088 Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711

Client:

Project Title: 05644-088						
Sample ID: MW-9A NLS#: 210736 Ref. Line 10 of COC 39319 Description: MW-9A Collected: 08/26/99 Received: 08/31/99 Reported: 09/22/99						•
Parameter	Result	Units	LOD	DOOT	Method	Analyzed Lab
VOCs (water) by EPA 8021	see attached				SW846 8021	SW846 8021 09/02/99 721026460
Sample ID: MW-12 NLS#: 210737 Ref. Line 11 of COC 39319 Description: MW-12 Collected: 08/27/99 Received: 08/31/99 Reported: 09/22/99						
Parameter	Result	Units	LOD	Too	Method	Analyzed Lab
Samples on hold	hold					09/20/99 721026460
Sample ID: MW-12 Dup NLS#: 210738 Ref. Line 12 of COC 39319 Description: MW-12 Dup Collected: 08/27/99 Received: 08/31/99 Reported: 09/22/99			•			
Parameter	Result	Units	LOD	1.00	Method	Analyzed Lab
Samples on hold	hold					09/20/99 721026460

#### NORTHERN LAKE SERVICE, INC. Analytical Laboratory and Environmental Services 400 North Lake Avenue - Crandon, WI 54520 Tel-715M78-2777 Fax:(715M78-3060

#### WIS. LAB CERT. NO. 721026460

Tel:(715)478-2777 Fax:(715)478-3060	ANALYTICAL REPORT	PORT	<b>+</b> d	PAGE: 5	NLS PROJECT#	CT# 49933
Client: Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711					NLS CUST#	8098
Project Description: NSP-Ashland Project Title: 05644-088						-
Sample ID: MW-13 NLS#: 210739 Ref. Line 13 of COC 39319 Description: MW-13 Collected: 08/26/99 Received: 08/31/99 Reported: 09/22/99						•
Parameter	Result	Units	LOD	Poo	Method	Analyzed Lab
VOCs (water) by EPA 8021	see attached				SW846 8021	09/03/99 721026460
Sample ID: MW-14 NLS#: 210740 Ref. Line 14 of COC 39319 Description: MW-14 Collected: 08/27/99 Received: 08/31/99 Reported: 09/22/99						
Parameter	Result	Units	LOD	COQ	Method	Analyzed Lab
Samples on hold	hold					09/20/99 721026460
Sample ID: MW-16 NLS#: 210741 Ref. Line 15 of COC 39319 Description: MW-16 Collected: 08/28/99 Received: 08/31/99 Reported: 09/22/99						
Parameter	Result	Units	LOD	507	Method	Analyzed Lab
Arsenic, dis. as As by ICP Chromium, dis. as Cr. by ICP	* ND V	ug/L ug/L	4.2 0.42 0.47	1.5 1.5	SW846 6010 SW846 6010	09/21/99 721026460 09/21/99 721026460 09/21/99 721026460
dis. a	NI) 0.20	mg/L	0.0032	0.011	6010	09/07/99 721026460
Lead, dis. as Pb by ICP Nickel, dis. as Ni by ICP	< 2.5 > 5.7	1/6n 1/6n	0.66	22 t 3. u ⊢	SW846 6010	09/21/99 /21026460
Merals disestion - total (water) ICP	yes 170	ng/ L	71	1.2	3010	09/03/99 721026460
	see attached				8021	09/02/99 721026460
Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C	yes see attached					09/03/99 721026460

#### WIS. LAB CERT. NO. 721026460

NORTHERN LAKE SERVICE, INC. Analytical Laboratory and Environmental Services 400 North Lake Avenue - Crandon, WI 54520 Tel:(715)478-2777 Fax:(715)478-3060

**ANALYTICAL REPORT** 

PAGE: 6 NLS CUST# NLS PROJECT# 49933 8098

Project Description: NSP-Ashland Project Title: 05644-088 Client: Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711

Sample ID: MW-17 NLS#: 210742

Metals digestion - total (water) ICP VOCs (water) by EPA 8021 Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C	Lead, dis. as Pb by ICP Nickel, dis. as Ni by ICP Zinc, dis. as Zn by ICP	Oα Cr ►·	Sample ID: MW-17A NLS#: 210743 Ref. Line 17 of COC 39319 Description: MW-17A Collected: 08/28/99 Received: 08/31/99 Reported: 09/22/99 Parameter	Arsenic, dis. as As by ICP Chromium, dis. as As by ICP Chromium, dis. as Cr by ICP Copper, dis. as Cr by ICP Cyanide, tot. (distilled) as CN Iron, dis. as Fe by ICP Lead, dis. as Pb by ICP Nickel, dis. as Ni by ICP Zinc, dis. as Ni by ICP Zinc, dis. as Zn by ICP Wetals digestion - total (water) ICP WOCS (water) by EPA 8021 Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C	Sample 11: mw-1/ Ref. Line 16 of COC 39319 Description: MW-17 Collected: 08/28/99 Received: 08/31/99 Reported: 09/22/99
yes see attached yes see attached	4 2.8 > ND ND	ND	Result	ND OL2 OL2 OL97 OL97 ISO yes see attached yes see attached	
	1/6n 1/6n 1/6	/L /L /L /En /L	Units	7/6n 16/1 16/1 19/1 19/1 19/1 19/1 19/1 19/1	-
	1.4 0.66 12	4.2 0.42 0.47 0.0032 0.0010	LOD	4.2 0.42 0.47 0.0032 0.0010 1.4 0.66	}
	5.1 2.3 12	15 1.5 1.7 0.011 0.035	QOJ	1.5 1.5 1.5 0.011 0.0035 5.1 2.3 12	
3010 8021 3510	6010 6010	6010 6010 6010 6010	Method	SWB46 6010 0 SWB46 6010 0 SWB46 6010 0 SWB46 6010 0 SWB46 6010 0 SWB46 6010 0 SWB46 6010 0 SWB46 6010 0 SWB46 8021 0 SWB46 3510 0 SWB46 3510 0 SWB46 3510 0 SWB46 3510 0 SWB46 3510 0 SWB46 3510 0 SWB46 3510 0 SWB46 3510 0	
09/03/99 721026460 09/02/99 721026460 09/02/99 721026460 09/02/99 721026460 09/03/99 721026460	09/21/99 721026460 09/21/99 721026460 09/21/99 721026460		Analyzed Lab	09/21/99 721026460 09/21/99 721026460 09/21/99 721026460 09/21/99 721026460 09/21/99 721026460 09/21/99 721026460 09/21/99 721026460 09/21/99 721026460 09/21/99 721026460 09/02/99 721026460 09/02/99 721026460 09/02/99 721026460	

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
-Tel:(715)478-2777 Fax:(715)478-3060

ANALYTICAL REPORT

WIS. LAB CERT. NO. 721026460

PAGE:

7

NLS PROJECT# 49933

NLS CUST#

8098

Client:

Dames & Moore
Attn: Dave Trainor
25 Kessel Court
Suite 201
Madison, WI 53711

Project Description: NSP-Ashland Project Title: 05644-088

Sample ID: Trip Blank NLS#: 210744
Ref. Line 18 of COC 39319 Description: Trip Blank
Collected: 08/28/99 Received: 08/31/99 Reported: 09/22 Reported: 09/22/99

Result

see attached

Units

g07

200

Method

SW846 8021 09/02/99 721026460 Analyzed Lab

Values in brackets represent results greater than the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than the LOQ are considered to be in the region of "Certain Quantitation".

LOD = Limit of Detection DWB = Dry Weight Banin

VOCs (water) by EPA 8021

Parameter

LOQ = Limit of Quantitation NA = Not Applicable

KDWIN - (m)/ky DWB)/10000

Reviewed by: Janes R. Cing

Authorized by:

R. T. Krueger Laboratory Manager

## ANALYTICAL RESULTS: VOC 8021 List by EPA 8250 (Saturn 2) Page: 1

Customer: Dames 4 Moore Project Description: NSP Ashland Project Title: 05644 088 Northern Lake Service Project Number: 49933

1,2,3-Trichloropropane ND I	Trichlorofluoromethane ND I	Trichloroethene ND 1	1,1,2-Trichloroethane ND I			richlorobenzene				·Tetrachloroethane			n-Propylbenzenc ND I	CIN	Methylene chloride < 0.30 > 1	ne		Ladiene	Ethylbenzene		rise 1 3. Prichlyropropene				ie.	hene				Dishiporodentene ND 1	1.3-Dichlorobenzene		Dibromomethane ND I	1, 2-Dibromoethane ND I	propane	thane	4-Chlorotoluene ND 1	ne	Chi naroner hans	Chlorofernane ND 1	•	hloride		sec-Butylbenzene ND 1	De .	inc		ne	ethane	Promobensense	NI)	/Ce	T WM LCCUTC
-	_	_	_	-	_	-	_	-	_	-	-	_	_	_	-		_	-	- (	<b>.</b> ,	<b>.</b>			•	-	_	J						-		_	_	_	ן	<b>.</b> .	<b>.</b>				-	-	_	-	-	_		1 100-	Mail, 143	III LUTTON
0.28	0.13	0.12	0.20	0.24	0.21	0.20	0.16	0.25	0.22	0.22	0.22	0.24	0.26	0.23	0.22	0.27	0.17	0.19	0.24	0.25	0.25	0.01	0.21	2 0 1 8	0 11	0.13	0.16	0.19	0.24	0.16	0.15	0.20	0.16	0.17	0.23	0.22	0.16	0.25	0.72	0.17	0.71	0.14	0.17	0.27	0.33	0.47	0.19	0.21	0.22	0.20	0 (g	11./l.	loi.
0.97	0.44	0.39	0.70	0.83	0.72	0.68	0.54	0.86	0.74	0.75	0.77	0.84	0.90	0.78	0.77	0.94	0.56	0.65	0.83	0.86	0.87	2 ·	4	0.60	0 76	0.44	0.52	0.65	0.83	0.55	0.44	0.68	0.57	0.58	0.78	0.75	0.52	0.87	N (	0.57	3 8	0.46	0.56	0.94	1.1	1.6	0.66	0.74	0.77	0.70	0.38	1100	100

## ANALYTICAL RESULTS: VOC 8021 Lint by EPA 8260 (Saturn 2) Page: 2

Customer: Dames & Moore
Project Description: NSP-Ashland Project Title: 05644 088
Northern Lake Service Project Number: 49933

ND 1	ND 1 0.47 ND 1 0.24 ND 1 0.24
ND I	ND 1 0
	ND 1

## ANALYTICAL RESULTS: VOC 8021 Limit by EPA 6250 (Saturn 2) . Here, (

Northern Lake Service Project Number: 49933	Project Description: NSP Ashland	Customer: Dames & Moore
T: 49933	Project '	
	Title: 05644 088	
	05644	
	088	

Northern Lake Service Project Number: 49933				
Analyte	210728 MW 2	NOTHER	נוטו	J.O.O.
Name	ug/1.	PACTOR	. jug/1.	77En
Bromobenzene	ND:	٠.,	0.20	0.70
Bromochloromethane	N N	. –	0.72	0.77
Bromoform Bromodichiolomechane	N. C	<b>.</b> .	0.19	0.66
Bromomethane	ND		0.47	1.6
n-Butylbenzene	2 2		0.33	0 -
tert-Butylbenzene	N T		0.17	0.56
Carbon Tetrachloride	Nic		0.14	0.46
Chlorobenzene	N.C		0.21	0.72
Chloroform	N C	<b>.</b> .	0.17	0.57
Chloromethane	ND D		0.72	2.4
2-Chlorotoluene	ND		0.25	0.87
4-Chlorotoluene	N N		0.16	0.52
1,2 Dibromo 3 Chloropropane	NIC :	_	0.21	94.0
1, 2-Dibromoetliane	NU	۔ ۔	0.17	0.58
1.2-Dichlorobenzene	Z c	<b>.</b> .	0.20	0.68
1,3-Dichlorobenzene	NID	_	0.13	0.44
1,4-Dichlorobenzene	Z Z		0.20	0.55
1,1-Dichloroethane	UN	_	0.24	0.83
1,2-Dichloroethane	<b>8</b> 8	- س	0.19	0.65
cis-1,2-Dichloroethene	CIN	υ.	0.13	0.44
trans-1,2 Dichloroethene	N.		0.22	0.76
1,2 Dichloropropane	8 8		0.21	0.74
2,2-Dichloropropane	ND	_	0.51	1.7
1,1 Dichloropropene	N N	. ب	0.12	0.39
trans-1,3-Dichloropropene	8	<b></b> .	0.25	0.86
Ethylbenzene	<b>8 8</b>		0.24	0.83
Impropylbenzene	N. C		0.17	0.56
p Inquiopyltoluene	NIO	-	0.27	0 44
Machthalene chloride	Z Z		0 0 0	0.77
n-Propylbenzene	ND	,	0.26	0.90
ortho-Xylene	ND		0.24	0.84
Styrene 1.1.1.2-Tetrachloroethape	N N	<b>.</b>	0.22	0.75
1,1,2,2-Tetrachloroethane	CIN	_	0.22	0.74
Tetrachloroethene	N S		0.25	0.86
10luene 1.2.3-Trichlorobensene	N N		0.16	0.54 68
1,2,4 Trichlorobenzene	NO	_	0.21	0.72
1,1,1 Trichloroethane	NI	-	0.24	0.83
1,1,2 Trichloroethane	N. S.		0.20	0.70
Trichlorofluoromethane	Z :		0.13	0.44
1,2,3-Trichloropropane	NU	_	0.28	0.97

## ANALYTICAL RESULTS: VOC 8021 List by EPA 8260 (Saturn 2) Page: 4

Customer: Dames & Moore
Project Description: NSP-Ashland Project Title: 05644 088
Northern Lake Service Project Number: 49933

Surrogate Recovery on Dibromofluoromethane = 109 % Surrogate Recovery on Toluene d8 = 106 % Surrogate Recovery on 1-Bromo 4-Fluorobenzene = 106 %	Isopropyl ether	MTBE	meta, para-Xylene	Vinyl chloride	1, 3, 5-Trimethylbenzene	1, 2, 4 - Trimethylbenzene	Name	Analyte
06	NU	¥	N.	NO	NE	ND	<u>1/6</u> 1	210728 MW 2
	1	_	_	_	_	_	PACTOR	NOLLITTE
	0.25	0.24	0.47	0.18	0.25	0.25	1761	100
	0.85	0.77	1.6	0.61	0.86	0.88	<u>.[/eir</u>	<b>9</b> 01

### ANALYTICAL RESULTS: VOX 8021 List by EPA 8260 (Saturn 2) Fage: 5

Customer: Dames & Moore Project Description: NSP Ashland Project Title: 05644-088 Northern Lake Service Project Number: 4993

Trichlorof loromethane 1,2,3-Trichloropropane	1.1.2 Trichloroethang Trichloroethang	1, 2, 4 Trichlorobenzene	1, 2, 3-Trichlorobenzene	Tetrachloroethene Toluene	1,1,2,2-Tetrachloroethane	1,1,1,2-Tetrachloroethane	Styrene	n-Propylbenzene	Naphthalene	Methylene chloride	1sopropylbenzene	Hexachlorobutadiene	Ethylbenzene	trans-1,3-Dichloropropene	Cia-1 3 Dichloropene	2,2 Dichloropropane	1, 3 Dichloropropane	1,2-Dichloropropane	trans-1.2-Dichloroethene	1,1 Dichloroethene	1,2-Dichloroethane	1,1-Dichloroethane	1,4-Dichlorobenzene	1,3-Dichlorobenzene	1,2-Dichlorobenzene	Dibromomethane	1,2-Dibromoethane	Dibromochloromethane	4-Chlorotoluene	2.Chlorotoluene	Chloromethane	Chloroform	Chlorobenzene	Carbon Tetrachloride	tert-Butylbenzene	sec-Butylbenzene	n.Buty)beozene	BI ONNOT OF ST	Bromodichloromethane:	Bromochloromethane	Bromobenzene	Benzene	Analyte
NI)	N N	Z	ND	ND	ND 8	ND	UN	N.O.	NI)	N.	NIC	<u> </u>	Z N	ND	ND	NU	N. E	<b>3</b>	N N	CIN	N S	N D	NU	¥.	2			div	¥ (	2 2	N)	ND	ND	N. i	N E	N N	N. S.	NO.	N :	N E	20	17/5n	210729 MW-2 Dup
			_	<b>-</b> -		-	₽,	<sub></sub>		_			. <b></b>	<b></b>	<b>.</b>	<b>→ .</b>	۔ ۔	۔ ۔	_	<b>-</b> -		٠	<b>.</b> .			_	_				_	_	ь.	- •		_	•					FACTOR	NOTTULL
0.12	0 0 1 2 12 2 2	0.20	0.16	0.25	0.22	0.22	0.24	0.23	0.22	0.27	0.17	0.24	0.25	0.25	0.12	0.21	0 18	0.22	0. 13	0.19	0.24	0.16	0.70	D. 20	0.16	0.17	0.2	0.22	0,25	0.72	0.17	1.1	0.21	0.17	0.27	0.33	0.47	0.14	0 //	0.20	0.11	i/gu	<b>E</b>
0.39	)	0.68	0.54	0.74	0.75	0.77	0.90	0.78	0.77	0.94	0.5	0.83	0.86	0.87	0 -	0.74	0.60	0.76	C 0.	0.65	0.83	0.55	0.44	0.68	0.57	0.58	0.78	0.52	0.87	2.4	0.57	J. 68	0.46	0.56	0.94	1.1	1.6	2 2	0.77	0.70	0. 38	1/ <u>F</u>	Š

## ANALYTICAL RESULTS: VOC 8021 List by EPA 8260 (Saturn 2) Page: 6

Analyte Name 1,2,4 Trimethylbenzene	Project Description: NSP Ashland Project Title: 05644 088 Northern Lake Service Project Number: 49933	Customer: Dames & Moore
	t Title:	
210729 MW 2 Dup 99/1.	05644 088	rage: 6
HOLLOK FVLIMILION		
1.00 vg/1. 0.25		

Surrogate Recovery on Toluene-d8 = 108 % Surrogate Recovery on 1-Bromo-4-Fluorobenzene = 111 %	Surrogate Recovery on Dibromofluoromethane = 110 \$	Isopropyl ether	MTBR	meta. para- Xv) ene	Viny) chlorida		1.2.4-Trimethylbenzene	Name of the same o
•	2			N. C	Z.	2	19 <u>1</u> /1.	210729 MM 2 Dup
	٠	_	_	_	-	_	HOT IVE	NOLLOTIN
	0.25	0.24	0.47	0.18	0.25	0.25	.1/en	מנאו
	0.85	0.77	1.6	0.61	0.86	0 . <b>H</b> H	1/01/	Ş

## ANALYTICAL RESULTS: VOC 8021 List by EPA 8260 (Saturn 2) Page: 7

Customer: Dames & Moore Project Description: NSP-Ashland Project Title: 05644 088 Northern Lake Service Project Number: 49933

1, 2, 3-111CH1Oropropane	113 Chiorofiuoxomethane	** Interest Control of the Int	Trichlorosthere	1. 1. 2- Trichlorget have	1. 1. Trichloroet hane	1,2,4-Trichlorobenzene	1, 2, 3-Trichlorobenzene	Toluene	Tetrachloroethene	1, 1, 2, 2 · Tetrachloroethane	1,1,1,2 Tetrachloroethane	ochreise.	Of Cito Ayaette	ortho Viller	indicate the	North bullen	Prisopropyrousene	o. I someon Follows	[BODYONV] henzana	Hexachlorobutadiene	Ethylbenzene	trans-1.3-Dichloropropens	Cis-1,3-Dichloropropene	1, 1-Dichloropropene	2,2 Dichloropropane	1, 3 Dichloropropane	1.2 Dichloropropane	trans 1,2-Dichloroethene	cis-1,2-Dichloroethene	1, 1-Dichloroethene	1,2-Dichloroethane	1, 1-Dichloroethane	Dichlorodifluoromethane	1,4 Dichlorobenzene	1, 3 Dichlorobenzene	1,2-Dichlorobenzene	Dibromomethane	1,2 Dibromoethane	1,2 Dibromo-3 Chloropropane	Dibt chechloromet hane	4 Chlorotoluene	2 Chlorotoluene	Chloromethane	Chloroform	Chloroethane	(h) orohenzana	Carbon Tetrach) pride	tert-Buty benzene	Sec - Bury bensens	n-Butvlbenzene	Brownerhane	Bronoform	Bromodichloromethane	Bromochloromethane	Bromobenzene	Benzene	Analyte Name	
Ā	N	Ni.	N	NU		2	1 2000	1.000	N.	×.	ž	. 016 >	< 1400 s	N.	12000	NI)	UL	N	Ni	1100	Z	2	€ 6	3			N. T.			N C	N	¥ .		<b>.</b>	€ ₹			N	2	. N	2	: E	NU	N.	CIN	<u></u>	. <del>.</del>	N.C.	20	U	NO	<u> </u>	2	<b>5</b> 5	65000	17/1	210735 MW 9	
2000	2000	<b>\000</b> 0	2000	2000	2000	2000	2000	2000	2000	3000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	5000	FACTOR	NO LLIYI TO	
7.60		7 1	100	480	120	590	10	.00	3 5 0		2 0	440	# H	5	1.5	4 : C	550	3.0	970	420	500	500	240	1000	430	160	440	260	310	370	480	310	410	270	390	330	330	150	4 10	<b>\$1</b> 0	500	1400	340	2300	010	280	330	540	660	950	380	430	450	100	560	1/15ú	1.00	
0061	780	100	1400	1700	1400	1400	1100	001.1	1,00	1,00	1.00		1.000	1000	1.00	1.00	1 1 6	1100	1 100	1700	1700	1700	790	3500	1500	1200	1',00	нно	1000	1300	1700	1100	1400	890	1400	1100	1200	1000	1',00	1000	1.700	11100	1100	7600	1100	920	1100	1900	2300	3300	1300	1500	1500	1400	1900	11/1.	Ç	

## ANALYTICAL RESULTS: VOC 8021 List by EPA 8260 (Saturn 2)

Customer: Dames & Moore

Project Description: NSP Ashland Project Title: 0%44 088

Matthern Lake Service Project Number: 4993

Analyte 21071.   Name ug/1.   1,2.4 Trimethylbenzene   1,3.5-Trimethylbenzene   1,3.5-Trimethylb
H 9 DITATETON LOD FACTOR US <u>/1</u> 2000 510 2000 170 2000 940 2000 500 500 500
1/1. 1/1/2 0 1800 0 1800 0 1200 0 1200 0 1500 0 1700

## ANALYTICAL RESULTS: VOC 8021 List by EPA 8260 (Saturn 2) Page: 9

Customer: Dames & Moore Project Description: NSP-Ashland Project Title: 05644-088 Northern Lake Service Project Number: 49933

Analyte	2107 H. MW 9A			
Name	rig/i	FACTOR 1311/1711ON	I (JU)	100
Bromobenzene	27000	2000	.i./En:	77. i76ii
Bromochloromethane	N. D	2000	400	1400
Bromodichloromethane	<u>z</u> 2	2000	450	1500
Bromonethane	NU	2000	380	1300
n-Butylbenzene	<b>3</b> 5	2000	950	0066
sec-Butylbenzene	× ē	2000	660	2300
tert-Butylbenzene	N i	2000	540	1900
Carbon Tetrachloride	ND 8	2000	330	1100
Chloropenzene	ND	2000	200	920
Chloroform	ND	2000	2300	7600
Chloromethane	;; E	2000	340	1100
2-Chlorotoluene	Z Z	2000	1400	1800
- CHIOTOCOLUENE	ND	2000	310	1700
1, 2. Dibromo - 3 - Chloropropana	מא	2000	<u>.</u>	1000
, 2. Dibromoethane	N	2000	450	1600
Dibromomethane	ND T	2000	930	1200
.3-Dichlorobenzene	ND	2000	390	1400
, 4-Dichlorobenzene		2000	270	090
ichlorodifluoromethane	NE S	2000	410	1400
. 2 · Dichloroerhane	ND	2000	400	1700
,1 Dichloroethene	: E	2000	370	1 100
18 1,2 Dichloroethene	N :	2000	110	1000
1.2 Dichloropropana	NI	2000	440	1:00 0HB
3 Dichloropropane	N.	2000	360	1200
2-Dichloropropane	N C	2000	130	1500
, 1 - Dichloropropene	UN	2000	1000	3500
trans-1 3-Dichloropene	ND	2000	500	1700
Ethylbenzene	NID NID	2000		1700
<b>Hexachlorobutadiene</b>	1 700	2000	180	1700
Isopropylbenzene	N ?	2000	390	1300
p-1sopropylcoluene	NIC :	2000	330	1100
metnylene chloride Naphthalene	UU	2000	450	1900
n Propylbenzene	5400	2000	450	1600
ortho Xylene	. NI	2000	520 520	1800
Styrene		2000	480	1700
1,1,1,2-Tetrachloroethane	VI) .	2000	440	1'.00
,1,2,2-Tetrachloroethane	N.C.	2000	140	1500
Tellachloroethene	NI	2000	440	1500
1,2,3-Trichlorobenzene	9600	2000	300	007.1
1,2,4-Trichlorobenzene	NI		190	1400
1, 1. Trichloroethane	N C		420	1400
1,1,2 Trichloroethane	2 2		480	1700
Trichloroethene	N. E		100	1400
	3		230	780
Trichlorofluoromethane	717		100	

## ANALYTICAL RESULTS: VOC 8021 List by EPA 8260 (Saturn 2)

Customer: Dames & Moore
Project Description: NSP-Ashland Project Title: 05644 088
Northern Lake Service Project Number: 49933

Analyte 21  Name 1,2,4-Trimethylbenzene ug 1,3,5-Trimethylbenzene 1,
2107.16 MH 9A 119/L1, NID ND ND ND ND ND ND ND ND ND
DILITION FACTOR 2000 2000 2000 2000 2000 2000 2000
1.010 197/1. 510 500 500 400 400 500
140 1800 1700 1200 1200 1500 1700

#### ANALYTICAL RESULTS: VOC 8021 Just by 12th 82th (Saturn 2 Page: 11

Customer: Dames & Moore
Project Description: NSP Ashland Project Title: 05644 088
Northern Lake Service Project Number: 49933

and the second	1,2,3.Trichloropropage	Trichlorofluoromethane	Trichloroethene	1,1,2 Trichloroethane	1,1,1.Trichloroethane	1,2,4-Trichlorobenzene	1,2,3-Trichlorobenzene	Toluene	Tetrachloroethene	1, 1, 2, 2-Tetrachloroethane	1,1,1,2-Tetrachloroethane	Styrene	ortho-xylene	n-Propylbenzene	Naphthalene	Methylene chloride	p-Isopropyltoluene	Isopropylbenzene	Hexachlorobutadiene	Sthylbenzene	trans-1 3-Dichloropropens	Cis-1.3-Dichloroproper	1 1-Dichloropropane	2.2.Dichloropropane	1.3-Dichloropropage	1.2 Dichloromon.	C18: 1, 2: D1Ch1orOethene	1, 1-Dichloroethene	1,2-Dichloroethane	1,1 Dichloroethane	Dichlorodifluoromethane	1,4-Dichlorobenzene	1, 3-Dichlorobenzene	1,2-Dichlorobenzene	Dibromomethane	1,2-Dibromoethane	1 2-Dibromo-1-Ghloropen	a-chiorocoluene	2-Chlorotoluene	Chloromethane	Chloroform	Chloroethane	Chlorobenzene	Carbon Tetrachloride	tert-Butylbenzene	sec-Butylbenzene	n-Butylbenzene	Bromomethane	Brosoform	Bromodichloromer bane	Bromochloromethane	Bromohensene	Bentana	Analyte
Š	25	200		<u>.</u>	2 (	5 8	ND OC	4200	<b>Z</b>	N.	<b>Z</b>		< 720 >	ND C	9100	N S	NI O	25	2300	ND	ND	ND	ND	ND	ND	NII	NI)	U	ND :	ND:	8	<b>3</b> 8	3	€	€ €	8	ND	ND	ND	CON	N.	× 2	5 8	5 5			. N	: <b>2</b>	NC	NU	NO	5600	1 <b>75</b> 1	210739 MW-13
1000	1000	1000	1000	1000	1000	1000	1000		1000	::000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1001	1000	1000	1000	000		1000	1000	1000	1000	1000	1000	1000	1000	1000		1000	1000	1000	1000	1000	1000	1000	1000	0000	000 t	1000	PACTOR	NOTTULITI
280	130	120	200	240	210	200	100	250	220	220	220	240	260	230	220	270	1.70	190	240	250	250	120	510	210	0#1	73.75 C	1 10	160	190	160	200	110	200	160	170	230	220	160	250	770	1100	210	140	170	270	330	470	190	210	220	200	110	wg/1.	101
970	440	061	700	0.68	720	680	540	860	740	750	770	840	900	780	770	940	560	650	830	. 028	870	390	1700	740	600	760	440	650	830	550	710	440	680	570	580	780	750	530	5400	570	3800	720	460	560	940	1100	1600	660	740	770	700	) #C !!	10/L	1600

### ANALYTICAL RESULTS: VOC 8021 List by EIN 8260 (Saturn 2) Page: 12

Customer: Dames & Noore Project Description: NSP-Ashland Project Title: 05644 088 Northern Lake Service Project Number: 49933

Analyte	210739 MW 13	NOT.I.D'I I d	Ιδρ
Name	.1 <u>76</u> 1.	FACTOR	1/611
1,2,4-Trimethylbenzene	< 400 >	1000	250
1,3,5-Trimethylbenzene	ND	1000	250
Vinyl chloride	ND	1000	180.
meta,para-Xylene	< 1600 >	1000	470
MTBE	ND	1000	240
Isopropyl ether	N O	1000	250
Surrogate Recovery on Dibromofluoromethane = 113 %	113 %		
Surrogate Recovery on Toluene-d8 * 109 %			

## ANALYTICAL RESULTS: VOC 8021 List by EPA 8260 (Saturn 2)

Project Description: NSP Ashland Project Title: 0%44 088 Northern Lake Service Project Number: 49933	Customer: Dames & Moore
5	
05644 081	
-	٠

•	1,2,3-Trichloropropane	Trichlorofluoromet hane	Trichloroethene	1,1,2-Trichloroethane	1, 1, 1-Trichloroethane	1, 2, 4 Trichlorobenzene	1, 2, 3 Tracial or oberrance	Toluene	Tetrachloroethane	1,1,1,2-Tetrachloroethane	Styrene	artho-xylene	n-Propylbenzene	Naphthalene	Methylene chloride	p-Isopropyltoluene	Isopropylbenzene	Hexachlorobutadiene	Ethylbenzene	trans-1, 3-Dichloropropene	cis-1, 3-Dichloropropene	1,1-Dichloropropene	2,2-Dichloropropane	1,3-Dichloropropane	1,2-Dichloropropane	trans-1, 2-Dichloroethene	cis-1.2-Dichloroethene	1. 1. Dichloroethane	1,1-pichlocochane	1 1 Dishlarathane	1,4-Dichlorobenzene	1,3-Dichlorobenzene	1,2-Dichlorobenzene	Dibromomethane	1,2-Dibromoethane	1,2-Dibromo-3-Chloropropane	Dibromochloromethane	4 - Chlorotoluene	2-Chlorotoluene	Chloromethane	Chloroform	Chlorobenzene	Carbon Tetrachloride	tert-Butylbenzene	sec-Butylbenzene	n-Butylbenzene	Bromomethane	Bromoform	Browedichloromethane	Brown hilorowet harre	Bromolyenzene	Benzene	Analyte
3	NI.	N.C	25			NI	. 0.2% .	CIN	UN	ND	NIJ	NU ::		< 0.67 >	S.	<b>S</b> 8		Z Z				2	× 2		× 5	3	NU	NU	NO	ND	ND	NI)	ND :	¥ (	N. S.	2 3		2	S	ND	ND	N.	ND :	<b>S</b>	N	5 8		N	3	2	0.50	<u>ug/1.</u>	210741 MM-16
~	_	_	-	-	-	-	_	-	_	, ۔	, .			<b>-</b> -	- <b>-</b>		_		_	_	_	-	-	_	~	_	_	_		<b>.</b> .	٠,					_		u	יי	-	₽.	,			_ ـ	. ,	۰, ـ	_	-	_	-	FACTUR	NOLLITTE
0.28	0.13	0.12	0.20	0.24	0.21	0.20	0.16	0.25	0.22	0 0 0 0	0 22	0.26	2 1	0.22	0.27	0.17	0.19	0.24	0.25	0.25	0.12	0.51	0.21	0.18	0.22	0.13	0.14	0 : 13	0.34	0	0 ; C		0.16	0.17	0.23	0.22	0.16	0.25	0.72	0.17		2 .		0.27	0.33	0.47	0.19	0.21	0 23	0.20	0.11	11/611	100
0.97	0.44	0.39	0.70	0.83	0.72	0.08	0.04	0 % 6	0.73	0. 11	0.84	0.90	0.78	0.77	0.94	0.56	0.65	0.83	0.86	0.87	0.39	1.7	0.74	0.60	0.76	0.44	O. 52		O	2	0	0.68	0.57	0.58	0.7в	0.75	0.42	0.87	2.4	0.57	2 C . 7 E	2 2	0.56	0.94	1.1	1.6	0.66	0.74	0.77	0.70	0.38	ua∕1.	Loo

## ANALYTICAL RESULTS: VOC 8021 List by EPA 4260 (Saturn 2) Page: 14

Customer: Dames & Moore
Project Description: NSP-Ashland Project Title: 05644 088
Northern Lake Service Project Number: 49933

Analyte Name 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Vinyl chloride meta,para-Xylene wTbE Impropyl ether Surrogate Recovery on Dibromofluoxomethane = 105 % Surrogate Recovery on 1-Bromo-4-Fluorobenzene = 104
210741 MW 16  194/L  ND  ND  ND  ND  ND  ND  ND  ND  ND  N
11 LITTION 11 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1431) 1400 1197/L 1197/L 0.25 0.88 0.25 0.86 0.18 0.61 0.47 1.6 0.24 0.77 0.25 0.85

## ANALYTICAL RESULTS: VOC 8021 List by EPA 8260 (Saturn 2) Page: 15

Wortnern Lake Service Project Number: 49933	Project Description: NSP-Ashland Project Title: 05644 041	THE PROPERTY OF THE PROPERTY O
	. 05644 OHI	

Analyte				
Name	210742 MW 17	DILUTION	T.OD	3
Benzene	i /5iv	FACTOR	1/1/u	lio/
Bromobenzene	x 0.25 v	- !	0.11	0.38
Bromochloromethane	<b>Z</b> 3	-	0.20	0.70
Bromodichloromethane	ND 8		0.22	0.77
Broncherhan	N :	<b>.</b>	0.21	0.74
n-Butylbenzene	ND	<b>.</b>	0.19	0.66
sec · Butylbenzene	NC		0.47	1.6
tert-Butylbenzene	ND ND	u	0.27	0 94
Carbon Tetrachloride	N D	u	0.17	0.56
Chlorobenzene	2 6	-	0.14	0.46
Chloroform	CON		0.21	0.72
Chloromet hance	N. I		1.1	3.8
2 Chilorotolnene	Ş		0.72	0.57
4 Chlorotoluene	X X	-	0.25	0 87
Dibromochloromethane	N &		0.16	0.52
1, 2-Dibromosthan	NU		0.22	0.75
Dibromomethane	ND	μ,	0.23	0.78
1,2-Dichlorobenzene	NO	-	0.16	0.50
1, 3- Dichlorobenzene	N Z	_	0.20	0.68
Dichlorodifluorometica	N.		0.1)	0.44
1,1-Dichloroethane	NID	,	0.26	0.71
1,2-Dichloroethane	<b>3</b>		0.24	0.83
1,1-Dichloroethene	N G		0.19	0.65
trans 1.2 Dichloroschem	NI		0.16	0.52
1.2-Dichloropropane	N.		5.7	0.44
1,3-Dichloropropane	. N	1	0.18	0 .
2,2-Dichloropropane	S 10	•	0.21	0.74
cis-1.3-Dichloropropene	ND	_ ,_	0.51	1.7
trans-1,3-Dichloropropene	ND	₩,	0.12	0.39
Ethylbenzene Ethylbenzene		1	0.25	0.07
Hexachlorobutadiene	N N	· •	0.24	0.83
tachtchylbenzene	N.C.		0.19	0.65
Methylene chlorida	NU	<u>.</u>	0.17	0.56
Naphthalene	ND ND	<b></b>	0.22	0.94
n-Propylbenzene	ND 35 V		0.23	0.78
Styrene Styrene	<u>.</u>		0.26	0.90
1. 1. 2. Tel pachlorouth	Ş			O. H4
1, 1, 2, 2 Tetrachloroethane	NID	<b>.</b> .	2 1 1 1	0.77
Tetrachloroethene	N.C.		0.22	
Toluene	NI)	-	0.25	0.86
1 2 4 Trichlorobenzene	NI)		0.16	0.54
1, 1, 1 Trichloroethau	NIJ		0.20	0.68
1, 1, 2-Trichloroethane	N S		0.24	0.72
Crichloroethene		-	0.20	0.70
1.2.3-Trichloromethane	<u>.</u>		0.12	0.19
e de la constante de la consta	N.		0.13	0.44
				0.70

## ANALYTICAL RESULTS: VOC 8021 List by EPA 8250 (Saturn 2) Page: 16

Customer: Dames & Moore
Project BeneripHon: NEP Anhland Project Tille: 05644-088
Northern Lake Service Project Number: 49943

Analyte  Name  1.2,4-Trimethylbenzene  1.3,5-Trimethylbenzene  1.3,5-Trimethylbenzene  Vinyl chloride  meta,para.Xylene  MTBE  Imopropyl ether  Surrogate Recovery on Dibromofluoromethane = 110 %  Surrogate Recovery on 1-Bromo-4-Fluorobenzene = 108 %
210742 MW·17  19/1. ND ND ND ND ND ND ND ND ND ND ND ND ND
FACTOR I
1.00 1.00 1.19/L 0.25 0.86 0.25 0.18 0.61 0.47 1.6 0.24 0.77 0.25 0.85 0.86

## ANALYTICAL RESULTS: VOC 8021 Ligt by EFA 8260 (Saturn 2) Page: 17

Customer: Dames & Moore Project Description: NSP

Northern Lake Service Project Number, John
=

	1,2,3-Trichloropropane	11 Interoffuence thane	Trichlere	Trichlandia	1 1 2 Trichloroethane	1.2.4.Trichlorobenzene	1,2,3-Trichlorobenzene	Toluene	Tetrachloroethene	1, 1, 2, 2-Tetrachloroethane	1, 1, 1, 2-Tetrachloroethane	Styrene	ortho-Xylene	n-Propylbenzene	Naphthalene	Methylene chloride	P-Isopropyltoluene	I sopropy   henrens	Hexachlorobut adjane	Ethylbensene	trans-1 3.Dichloropene	cia-1 1. Dichlospene	1 1-Dichloropane	2 2-Dichloropropane	1,2-Dichloropropane	trans-1,2-Dichloroethene	cis 1, 2 Dichloroethene	1, 1 Dichloroethene	1,2 Dichloroethame	1, 1 Dichloroethane	Dichlorodifluoromethans	1.4-Dichlorobenzene	1 1 Dichlorobenzene	) 3-Dichlane	1, 2-Dibromoethane	1,2-Dibromo-3-Chloropropane	Dibromochloromethane	4-Chlorotoluene	2. Chlorotoluene	Chloromethane	Chloroform	Chloroethane	Chlorobones of the Chlorobones o	Cart Bucytoenzene	sec.putylpentene	n-Butylbenzene	bromomethane	Bronoform	Bromodichloromethane	Bromochloromethane	Bromobenzene	Benzene	Name	Analyte
č	NI :	20	N.	ND	2	NI.	<u> </u>	300	5 <del>5</del>	3		; <del>2</del>	3 8	< 0.23 >	NU	CIN	NO	ND	ND	ND	ND	ND	ND	ND :	Š	<u>s</u>	<b>X</b> 3	<b>II</b> :	N.U.	ND	ND	UD	ND	ND :	ND 18	<b>3</b>		z z	ND	ND	ND	ND	NC	N :	NE	ND :	NI)		3 8	3	× 0.14 ×	1/50	210743 MW 17A	
-	_	_	_	_	-	~	_	_	_	-	_	1	_	-	_	<b>.</b>	٠.	<b>-</b> ,	- •		<b>-</b> •			• •			_	-	-	<u>.</u>						_	-	_	-	_	<b>.</b> ,	<b>-</b> -						_	_	-	2	FACTOR	NOTTU	
0.28	0.15	0.12	0.20	0.24	0.21	0.20	0.16	0.25	0.22	0.22	0.22	0.24	0.26	0.23	0.27	0	0.19	0.24	0.25	0.25	0.12	0.51	0.21	0.18	0.22	0.13	0. Ie	0 ; - ;	0.24	0 16	0.13	0.20	0.16	0.17	0.23	0.22	0.16	0.25	0.72	0 13	7 . 21	0.14	0.17	0.27	0.33	0.47	0.19	0.21	0.22	0.20		1/bn	100	
0.97	0.44	0.39	0.70	0.83	0.72	0.68	0.54	0.86	0.73	0.35	0 77	0.44	0 90	0.78	0.94	0.56	0.65	0.83	0.86	0.87	0.39	1.7	0.74	0.60	0.76	0.44	9.5.		0.55	0.71	0.44	0.68	0.57	0.58	0.78	0.75	0.52	0 87	٠. ٠	. c	0.72	0.46	0.56	0.94	1.1	1.6	0.66	0.74	0.77	0.70	0 kg	16 / C	-	

## ANALYTICAL RESULTS: VOC 8021 List by EPA 8260 (Saturn 2) Fage: 18

Customer: Dames & Moore Project Description: NSP Ashland Project Title: 05644:088 Northern Lake Service Project Number: 4993

Surrogate Recovery on Toluene-d8 = 107 %	Isopropyl ether	MTBE	meta, para-Xylene	Vinyl chloride	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	Name	Analyte	
Surrogate Recovery on Toluene-d0 = 107 %	NIC	<b>2</b>	NU	ND	ND	NU	176n	210743 MW 17A	
		_	-	_	_	<b>,</b>	FACTOR	NOTTITIE	
	0.25	0.24	0.47	0.18	0.25	0.25	i/en	1,00	

0.86 0.77 0.86 0.61 0.61

## ANALYTICAL RESULTS: VOC 8021 List by EPA 8260 (Saturn 2) Page: 19

Customer: Dames & Moore
Project Description: NSP Ashland Project Title: 05644-088
Northern Lake Service Project Number: 49933

Analyte	210744 Trip Blank	NO1.LnT1 Pcl	QC1	QO.I
Name	17fm	FACTOR	i/Gñ	ij/bii
Bromobenzene	<b>8</b>		0.20	0.70
Bromochloromethane	ND	_	0.22	0.77
Bromodichloromethane	; 3		0.21	0.74
Bromomet hane	N d	<b>.</b>	0.47	1.6
n-Butylbenzene	O. C.	<b>.</b> .	0.33	- :
sec-Butylbenzene	NID	_	0.27	0.94
Carbon Terrachloride	N N	<b>۔</b>	0.17	0.56
Chlorobenzene	ND	<b>.</b> .	0.21	0.72
Chloroethane	ND	_	1.1	3.8
Chloroform	ND	_	0.17	0.57
2-Chloromethane 2-Chlorotoluene	N N		0.72	0.87
4-Chlorotoluene	NC	<b>.</b>	0.16	0.52
Dibromochloromethane	ND	1	0.22	0.75
1, 2-Dibromo-3-Chloropropane	K N	بر د	0.23	0.78
Dibromomethane	ND	<b>.</b> ,	0.16	0.57
1,2-Dichlorobenzene	ND	_	0.20	0.68
1,3-Dichlorobenzene			0.14	0.44
Dichlorodifluoromethane	ND	<b>.</b>	0.16	0.55
1, 1-Dichloroethane	NB		0.24	0.83
1. 1: Dichloroethene	N N		0.16	0.52
cis-1,2-Dichloroethene	ND	-	0.13	0.44
1 2-Dichloropethene	Z Z		0.22	0.76
1, 3-Dichloropropane	ND		0.21	0.74
2,2-Dichloropropane	ND	_	0.51	1.7
1,1-Dichloropropene	2 2		0.12	0.39
trans.1,3.Dichloropropene	NJ I	ا منو	0.25	0.86
Ethyllenzew Barachlorolud adiama	2 2		0.24	? <u>?</u>
Isopropylbenzene	טא	-	0.17	0.56
p-Isopropyltoluene	ND ND	۰,	0.27	0.94
Naphthalene	S.	<b>₩</b> \$	0.23	0.78
n-Propylbenzene	N	, ,	0.26	0.90
ortho Xylene	N N		0.24	0.84
1,1,2 Tetrachloroethane	NS :		0.22	0.75
1,1,2,2 Tetrachloroethane	N	_	0.22	0.74
Tetrachloroethene	3		0.25	0.86
1,2,3 Trichlorobenzene	ND 6		0.20	0.68
1,2,4 Trichlorobenzene	NO	-	0.21	0.72
1,1,1 Trichloroethane	2 2		0.24	2 O
Trichloroethene	N.C	<b></b> .	0.12	0.39
Trichlorofluoromethane	NU	_	0.13	0.44
1, 2, 3-Trichioropropane	2	-	0.28	0.97

## ANALYTICAL RESULTS: VOC 8021 List by EPA 8260 (Saturn 2) Page: 20

Customer: Dames & Moore
Project Description: NSP Ashiland Project Title: 05644 0HB

ervice Project Number: 49933 210744 292Li Denzene ND ND ND	Trip Blank DILATION LOD PACTOR 92/L 1 0.25 1 0.18	100 LOQ 11/1 119/1. 125 0.86 18 0.61
Vinyl chloride	0.	
meta, para- Kylene ND	1 0.	
NO	1 0.	
Isopropyl ether ND	1 0.	
Surrogate Recovery on Dibromofluoromethane = 102 % Surrogate Recovery on Toluene-d8 = 98.0 %		
Surrogate Recovery on 1-Bromo-4-Fluorobenzene = 103 %		

# ANALYTICAL RESULTS: Semi Volatile Organic Compounds by EPA 92700 Page: 2

Customer: Dames & Moore
Project Description: NSP-Ashland Project Title: 05644 088
Northern Lake Service Project Number: 4993

Analyte	210742 MW-17	NOLLN'TIG	gori	<u>00</u>
Name	1/bu	PAC"FOR	ug/1.	/E
Acenaphthene	ž.	-		
Acenaphthylene	ŝ	-		
Anthracene	NE	_	1.2	w
Benzo (a) anthracene	NE	u	0.76	2.1
Benzo (a) pyrene	NE	u	1.2	<b>4</b> .0
Benzo (b) f l uoranthene	NU	_	0.64	2.1
Benzo (g, h, i) perylene	N	<b>,</b>	1.2	J. 9
Benzo [k] f luoranthene	NID	••	J . J	4.4
Butylbenzylphthalate	NU	u	1.1	3.5
Chrysene	NU	J	0.68	2
Di.n-butylphthalate	ND	1	1.6	5.5
Dibenzo (a, h) anthracene	ND		0.69	N
2,4-Dimethylphenol	NIC	1	y. 1	10
Fluoranthene	N	1	0.67	2.2
Fluorene	N.C.			
Indeno(1, 2, 3-cd)pyrene	NU		0.69	2
2-Methylnaphthalene	ND	-	1.4	٠.
2-Methylphenol	NO	1		. A
3 & 4-Methyphenol	ND	_	<u>ا</u> . ح	Ç
Naphthalene	ND O	-	<b>1</b> .5	Ų
Phenanthrene	ND	~	0.65	2.1
Phenol	N	_	0.76	ĸ
Pyrene	ND	_	2. 4	
ate				
Surrogate Recovery on Millobelizene up a 74.5 %				
Surrogate Recovery on 2-Fluoropiphenyl * /1.4 4				
Sutrogace Mercacel on the street on the street				

# ANALYTICAL RESULTS: Semi-Volatile Organic Compounds by EPA 82700 Page: 1

Customer: Dames & Moore Project Description: NSP.Ashland Project Title: 05644 088 Northern Lake Service Project Number: 49933

Surrogate Recovery on 2-Fluorophenol = 70.1 \$ Surrogate Recovery on Phenol d5 = 56.2 \$ Surrogate Recovery on Nilrobengene d5 = 77.1 \$ Surrogate Recovery on 2-Fluorobiphenyl = 74.9 \$ Surrogate Recovery on 2,4,6-Tribromophenol = 69.0 \$ Surrogate Recovery on Torphenyl d14 = 79.4 \$	Pyrene	Pheno1	Phenanthrene	Naphthalene	3 & 4-Methyphenol	2-Methylphenol	2-Methylnaphthalene	Indeno[1,2,3·cd]pyrene	Fluorene	Fluoranthene	2,4-Dimethylphenol	Dibenzo [a, h] anthracene	Di-n-butylphthalate	Chrysene	Butylbenzylphthalate	Benzo(k)fluoranthene	Benzolg, h, ilperylene	Benzo (b) fluoranthene	Benzo (a) pyrene	Benzo (a) anthracene	Anthracene	Acenaphthylene	Acenaphthene	Name	Analyte
	ND	NU	ND	ND	ND	ND	ND	N	N	ND	NB	¥	ND	NÜ	N.	<u>R</u>	N.	N.	N:	NE	£	Z.	N.	170/1	210741 MM 16
	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.01	1.04	1.03	1.01	1.01	1.03	1.03	F.VC.LOK	NOLLFILM
	1.3	B1. 0	0.67	1.6	1.5	1.3	<del>-</del> ئ	0.71	1.1	0.69	ມ ເ	0.71	1.7	0.70	1.1	<u>.</u>	1.2	0.66	1.2	0.78	1.2.	-	- 4	. /en	165
	4.4	2.6	2.1	5	5.2	<b>.</b>	5.0	2.3	<b>س</b>	<b>.</b>	=	2.	5.6	2	<b>ب</b>	<u>.</u>	a . C	N.	<u>-</u>	~	س.	4.6	-	Ę	Ę

# ANALYTICAL RESULTS: Semi-Volatile Organic Compounds by EPA 8270C Page: 3

Customer: Dames & Moore
Project Description: NSF Ashland Project Title: 05644 088
Northern Lake Service Project Number: 4993

Analyte	210743 MW 17A	NOI.LYIII	Ιώμ	001
Name	<u> 1</u> /6ո	FACTOR	77/50	1,5ai
Acenaphthene	ND	1.02	1.4	4.6
Acenaphthylene	NI	1.02	1.4	4.6
Anthracene	N.	1.02	1.2	÷.
Benzo (a) anthracene	ND	1.02	0.78	N.
Benzo (a) pyrene	ND	1.02	1.2	4
Benzo (b) f luoranthene	NID	1.02	0.65	'n
Benzo (g, h, i ) perylene	NU	1.02	1.2	4
Benzo (k) fluoranthene	ND	1.02	1.3	#.S
Butylbenzylphthalate	ND	1.02	1.1	3.6
Chrysene	ND	1.02	0.69	2.2
Di n butylphthalate	N. T.	1.02	1.7	· ·
Dibanza (a, h) am hracene	ŧ	1.02	0.70	•2
2,4 Dimethylphenol	N.E.	1.02	3.1	ŭ
Fluoranthene	N.	1.02	0.68	2.2
Fluorene	N.C	1.02	1.1	3.7
Indeno(1,2,3-cd)pyrene	NS	1.02	0.70	2.2
2-Methylnaphthalene	ND O	1.02	<b>.</b>	4.9
2-Methylphenol	ND	1.02	1.3	4
3 & 4-Methyphenol	ND	1.02	1.5	5.1
Naphthalene	ND	1.02	1.6	ر. ت
Phenanthrene	ND	1.02	0.66	2.1
Phenol	ND	1.02	0.78	2
Pyrene	ND	1.02	1.3	<u></u> .
Surrogate Recovery on 2-Fluorophenol = 45.6 %				
Surrogate Recovery on Phenol-d5 = 37.9 %				
Surrogate Recovery on Nitrobenzene-d5 = 67.4 %				
Surrogate Recovery on 2-Fluorobiphenyl = 66.1				
Surrogate Recovery on 2,4,6-Tripromophenoi = 50.7 %	9.9 4			

NO. 39319



#### NORTHERN LAKE SERVICE, INC.

Analytical Laboratory and Environmental Services

#### SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

400 North Lake Avenue • Crandon, WI 54520-1298
Tel: (715) 478-2777 • Fax: (715) 478-3060

Wisconsin Lab Cert. No. 721026460

	*1 ax. (715) 475-3000	DNR LICENSE		FIO	
CLIENT : MPS & MONOCE	· · · · · · · · · · · · · · · · · · ·	PROJECT TITLE	-Ashu	22	
DORESS - KOSSO ( SI	170 201	PROJECT NO.	14 08	P.O. NO.	
HADA INT	TATE ZIP 53711	CONTACT -	Trainor	PHONE (607)273-	283
TEM SISS SAMPLE ID DA		SAMPLE GR TYPE CO		COLLECTION REM	ARKS
1 1.727 AAW-1	8/25 1630	6W 6	2		
2 11/1/-2	X/25 1700		2		· ·
3 77/17/-3 4	827 1530	,	2	962 D	
MIN-Y.	7/27 1330		2	13060	
5 32 MM-44 x	8/27 1315		, 2	HOLD	
3 MA-4B	8/27 13012		2	200	
MIN-74 x	8/25 1200		2	2007	
1 / AMAL 9	8/2% 1075		2-		
MID-24	11/26 11/5		2		
0. 1-12+WOK	8/27 1450		4	HOLD 40	
1 1 MiN-13	8/26 1015		2		
2. 1/1/1/-/-/ >	N27 1415	¥ Y	12	L HARD	
AMPLE TYPE: SW-surface water SW-wastewater GW-groundwater DW-drinking water TIS-itissue AIR-air	PROD=product SOIL-soil SED-sediment		CONTAINER P = plastic G = glass V = glass vial B = plastic bag describe others	PRESERVATIVES & PREPARATION  NP = nothing added  S = sulfuric acid  N = nitric acid  Z = zinc acetate  H = hydrochio	hydroxid loric & acid oric acid
OLLECTED BY (signatures)	-		CUSTODY SEA.	NO. (IF ANY) DATE/TIME	
RELINQUISHED BY (signature)	RECEIVED BY (sign			DATE/TIME  3/3/) 6 0m  DATE/TIME	7
DISPATCHED BY (signature)	METHOD OF TRAN	SPORT	•	DATE/TIME	
RECEIVED AT NLS BY (algorithms)		10:00	CONDITION	JR. TH	( A
SEAL INTACT SEAL STATE	AEMARKS & OTHER	INFORMATION OLD 54m	ples to b	· recellected.	1
:	47	٠ - د	i managari i	continue rec'd warm in 8-30-99. Davie	Tien
1. TO MEET REGULATORY REQUIREMENT 2. PLEASE USE ONE LINE PER SAMPLE, N	TS, THIS FORM <u>MUST</u> BE COMPL <u>NOT</u> PER BOTTLE. CLIENT MAY KEEP PINK COPY	ETED IN DETAIL AN	D INCLUDED IN THE	HIPPER CONTAINING THE SAMPLES DE الفرور الما الفرور الما الفرور الما الفرور الما الما الما الما الما الما الما الم	-



#### NORTHERN LAKE SERVICE, INC.

Analytical Laboratory and Environmental Services

CHAIN OF CUSTODY RECORD 400 North Lake Avenue • Crandon, WI 54520-1298 Wisconsin Lab Cert. No. 721026490

SAMPLE COLLECTION AND

NO. 39317

		Tel: (715) 478-27	77 • Fax:	(715) 478-3060						и	isconsin L	ab Cert. No. 721026490		
RETU	RN THIS FOR	M WITH SAMPLES.	ONR LICENS				FID							
CLIEN	"Dan	105 & Mani	PROJECT T	-Al	lan	id i	0							
ADDF	ESS /	(PGCC (+ "	PROJECT NO. 05644-088					P.O. NO.						
CITY	Mad	ison INT	24)/ 537/1	CONTACT	je	e Tainor				(608)273-2286				
ITEM NO.	NLS LABUNO	SAMPLE ID	DNA ID	OLLECTION DATE TIME	SAMPLE TYPE	GRAE	CONT	AINER PE	ESERV	ATIVE	COL	LECTION REMARKS		
1.	11.741	MW-16	8	128 1141)	GW	6	1	1	1	Z				
2.	142	MIN-17	18	128 1230		1		1	1					
3.	以	MW-17A	文	128 1245	V		V/	V	$\underline{\Psi}$	$\Psi$				
4.	744	•	,	•										
5.									· 					
6.														
7.	्। [1]													
8.														
9.														
10.	1 4							<u> </u>						
<b>1</b> 1.														
12.		<u> </u>						<u> </u>						
SAMPLE TYPE:  SW=surface water DW=drinking water PROD=product  WW=wastewater TIS=tissue SOIL=soil  GW=groundwater AIR=air SED=sediment  describe others						P G V B	P = plastic NP G = glass S = V = glass vial N <				RESERVATIVES & PREPARATION P = nothing added Sulfurio acid Intric			
	ECTED BY (si	gnatures)					CUSTODY	SEAL N	10. (IF	ANY)	DATE/TIN	AE .		
RELINQUISHED BY (signature)  RECEIVED BY (signature)						PATE/TIME 8/30 60m								
RELINQUISHED BY (signature)  RECEIVED BY (signature)						ature) DATE/TIME /								
DISPATCHED BY (signature) METHOD OF TRANS						PORT DATE/TIME								
RECEIVED AT NLS BY (NOTIFICATION OF THE STATE OF THE STAT							CONDITION	2>.5	1	2.4	1/0			
SÉÁL	INTACT	NO SEAL OF THE PROPERTY OF THE	AEMARKS & OTHER I	ARKS & OTHER INFORMATION						esting soid warms				
						4.	•	_	·	6.	· ·	• • •		

1. TO MEET REGULATORY REQUIREMENTS, THIS FORM MUST BE COMPLETED IN DETAIL AND INCLUDED IN THE SHIPPER CONTAINING THE SAMPLES DESCRIBED.

2. PLEASE USE ONE LINE PER SAMPLE, <u>NOT</u> PER BOTTLE.

<sup>3.</sup> RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54820
Tel:(715)478-2777 Fax:(715)478-3060

**ANALYTICAL REPORT** 

PAGE: NLS CUST# NLS PROJECT# 50055 8098

Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711

Sample ID: MW-3 NLS#: 211206
Ref. Line 1 of COC 39588 Description: MW-3
Additional Comments: Metals analysis performed at 10-fold dilution due to foaming.
Collected: 09/02/99 Received: 09/03/99 Reported: 09/29/99 Project Description: NSP project Title: 05644-008 Client:

Arsenic, dis. as As by ICP Chromium, dis. as Cr by ICP Copper, dis. as Cu by ICP Copper, dis. as Fo by ICP Cyanide, tot. (distilled) as Cr Iron, dis. as Fe by ICP Lead, dis. as Pb by ICP Nickel, dis. as Ni by ICP Zinc, dis. as Zn by ICP Zinc, dis Parameter 2 < 77 Regult see attached yes see attached ND ND 7.0 Additional Comments: 2,4-Dimethylphenol and pyrene had recovery in the control, spike and duplicate. attached 1/6n mg/r mg/r mg/r mg/r ng/r ng/r 42 4.2 4.7 0.064 0.010 14 6.6 120 Ş 150 15 17 0.21 0.035 201 low SW846 6010 SW846 6010 SW846 6010 EPA 335.4 SW846 6010 SW846 6010 SW846 6010 SW846 8021 SW846 3510 SW846 3510 SW846 3510 09/29/99 09/29/99 09/13/99 09/13/99 09/29/99 09/29/99 09/29/99 09/16/99 09/03/99 Analyzed 09/10/99 721026460 721026460 721026460 721026460 721026460 721026460 721026460 721026460 721026460 721026460

Client:

#### **ANALYTICAL REPORT**

PAGE: 2 NLS CUST# NLS PROJECT# 50055 8098

Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711

Project Description: NSP Project Title: 05644-008

	Arsenic, dis. as As by ICP Chromium, dis. as Cu by ICP Copper, dis. as Cu by ICP Cyanide, tot. (distilled) as CN Iron, dis. as Fe by ICP Lead, dis. as Fe by ICP Nickel, dis. as Ni by ICP Zinc, dis. as Ni by ICP Zinc, dis. as Ni by ICP VOCS (water) by EPA 8021 Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C	ID: M of COC 09/02/99
Additional Corecovery in th	<pre>&lt; 0.84 &gt; 4.1 0.056 1.6 ND &lt; 0.93 &gt; 190 see attached yes see attached</pre>	_
Additional Comments: 2,4-Dimethylphenol and pyrene had recovery in the control, spike and duplicate.	1/6n 1/6n 1/6m 1/6m 1/6n	Units
nylphenol and pond duplicate.	0.42 0.47 0.0032 0.0010 1.4 0.66	
yrene had	1.5 1.7 1.7 0.011 0.0035 5.1 2.3	12 100
<u> </u>	SW846 6010 SW846 6010 EPA 335.4 SW846 6010 SW846 6010 SW846 6010 SW846 6021 SW846 8021 SW846 3510 SW846 3510	Method
	09/29/99 09/29/99 09/13/99 09/29/99 09/29/99 09/29/99 09/29/99 09/15/99 09/15/99	Analyzed Lab

Client:

Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711

Project Description: NSP Project Title: 05644-008

PAGE: 3 NLS PROJECT# 50055

ANALYTICAL REPORT

NLS CUST#

Arsenic, dis. as As by ICP Chromium, dis. as Cu by ICP Copper, dis. as Cu by ICP Cyanide, tot. (distilled) as Ct Iron, dis. as Fc by ICP Lead, dis. as Fb by ICP Lead, dis. as Bb by ICP Nickel, dis. as Sn by ICP Zinc, dis. as Zn by ICP VOCs (water) by EPA 8021 Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C Sample ID: MW-4 Dup NLS#: 211208
Ref. Line 3 of COC 39588 Description: MW-4 Dup
Collected: 09/02/99 Received: 09/03/99 Reported: 09/29/99 Parameter S Result

NE 1.1 > 1.9 0 0.038 0.29 ND ND > 110 see attached see attached Additional Comments: 2,4-Dimethylphenol and pyrene had low recovery in the control, spike and duplicate. 1/6n 1/6n 1/6n 1/6n 1/6n 1/6n 4.2 0.42 0.47 0.0032 0.0010 1.4 0.66 GOT 1.5 1.5 1.7 0.011 0.0035 5.1 2.3 Sori SWH46 6010 SWH46 6010 EPA 335.4 SWH46 6010 SWH46 6010 SWH46 6010 SWH46 6010 SWH46 8021 SWH46 3510 SWH46 3510 SWH46 3510 Method 0 09/29/99 721026460 09/29/99 721026460 09/29/99 721026460 09/29/99 721026460 09/29/99 721026460 09/29/99 721026460 09/29/99 721026460 09/29/99 721026460 09/29/99 721026460 09/29/99 721026460 09/29/99 721026460 09/29/99 721026460 09/29/99 721026460 09/29/99 721026460 09/29/99 721026460 09/29/99 721026460 Analyzed

Client:

#### WIS. LAB CERT. NO. 721026460

#### ANALYTICAL REPORT

PAGE: 4 NLS PROJECT# 50055
NLS CUST# 8098

Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711

Project Description: NSP Project Title: 05644-008

Sample ID: MW-4A NLS#: 211209
Ref. Line 4 of COC 39588 Description: MW-4A
Collected: 09/02/99 Received: 09/03/99 Reported: 09/29/99

							_		_			_
	Semivolatile GC/MS by 8270C	VOCs (water) by EPA 8021	Zinc, dis. as Zn by ICP	Nickel, dis. as Ni by IC	Lead, dis. as Pb by ICP	Iron, dis. as Fe by ICP	Cyanide, tot. (distilled) as CN	Copper, dis. as Cu by ICP	Chromium, dis. as Cr by	Arsenic, dis. as As by ICP	Parameter	Collected: 03/02/33 Received: 03/03/33 Reported: 03/23/33
	00	i. i		<b>™</b>			) as CN	יסי	ICP	CP		DayCoyen
												eborea: navasa
Additional Common 4-methylphenol and duplicate. Naphibecause the value	yes see attached	see attached	20	ND	ND	1.5	0.053	ND	ND	N.	Result	
Additional Comments: 2,4-Dimethylphenol, 2-methylphenol, 4-methylphenol and pyrene had low recovery in the control, spike and duplicate. Naphthalene concentration should be considered an estimabecause the value exceeds the high end of the calibration curve.			1/gu	ug/L	ug/L	mg/L	mg/L	ug/L	ug/L	ug/L	Units	
henol, 2-me covery in t on should be and of the c			12	0.66	1.4	0.0010	0.0032	0.47	0.42	4.2	LOD	
nol, 2-mcthylphenol, spik very in the control, spik should be considered an e of the calibration curve			12	2.3	5.1	0.0035	0.011	1.7	1.5	15	LOQ	
nol, 2-methylphenol, wery in the control, spike and should be considered an estimate of the calibration curve.	SW846 8270C	8021	SW846 6010	SW846 6010	SW846 6010	SW846 6010 09/29/99	EPA 335.4	SW846 6010	SW846 6010 09/29/99	SW846 6010	Method	
c	09/11/99 721026460	09/16/99 721026460	09/29/99 721026460	09/29/99 721026460	09/29/99 721026460	09/29/99 721026460	09/09/99 721026460	09/29/99 721026460	09/29/99 721026460	09/29/99 721026460	Analyzed Lab	
	6460	6460	6460	6460	6460	6460	6460	6460	6460	6460		

Client:

ANALYTICAL REPORT

PAGE: 5 NLS PROJECT# 50055 NLS CUST# 8098

Project Description: NSP Project Title: 05644-008 Dames & Moore
Attn: Dave Trainor
25 Kessel Court
Suite 201
Madison, WI 53711

Arsenic, dis. as As by ICP Chromium, dis. as Cr by ICP Copper, dis. as Cu by ICP Cyanide, tot. (distilled) as CN Iron, dis. as Fe by ICP Lead, dis. as Fe by ICP Lead, dis. as Ni by ICP Zinc, dis. as Ni by ICP Zinc, dis. as Sn by ICP Zinc, dis. as Sn by ICP Zinc, dis. as Sn by ICP Zinc, dis. as Zn by ICP Zinc, dis. as Zn by ICP Zinc, dis. as Zn by ICP YOCS (water) by EPA 8021 Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C Sample ID: MW-4B NIS#: 211210
Ref. Line 5 of COC 39588 Description: MW-4B
Collected: 09/02/99 Received: 09/03/99 Reported Parameter Reported: 09/29/99

ND 14 0.033 ND 3.0 yes see attached Additional Comments: 2,4-Dimethylphenol and pyrene had recovery in the control, spike and duplicate. 180 see attached 1/6n 1/6n 1/6n 1/6n 1/6n 1/6n 4.2 0.42 0.47 0.0032 0.0010 1.4 0.66 8 15 1.5 1.7 0.011 0.0035 5.1 2.3 S SW846 6010 SW846 6010 SW846 6010 EPA 335.4 SW846 6010 SW846 6010 SW846 6010 SW846 6010 SW846 6010 SW846 8021 SW846 3510 SW846 3510 SW846 3510 0 09/29/99 721026460 0 09/29/99 721026460 0 09/29/99 721026460 0 09/29/99 721026460 0 09/29/99 721026460 0 09/29/99 721026460 0 09/29/99 721026460 0 09/29/99 721026460 1 09/16/99 721026460 0 09/03/99 721026460 0 09/03/99 721026460 Analyzed

### **ANALYTICAL REPORT**

PAGE: 6

NLS PROJECT# 50055

NLS CUST#

8098

Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711

Sample ID: MW-7A NLS#: 211211
Ruf. limb 6 of COC 39588 Description: MW-7A
Additional Comments: Metals analysis performed at 10-fold dilution due to foaming and high organic content. Collected: 09/02/99 Received: 09/03/99 Renorted: 09/79/99 Project Description: NSP Project Title: 05644-008 Client:

_							_	_		_			
		Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C	VOCs (water) by EPA 8021	Nickel, dis. as Ni by ICP	Lead, dis. as Pt	Iron, dis. as Fe by ICP	Cyanide, tot. (d	Copper, dis. as	٠	Arsenic, dis. as		Parameter	Collected: 09/02/99
		d Extraction MS by 8270C	EPA 8021	Ni by ICP	by ICP	by ICP	(distilled) as CN	as Cu by ICP	as Cr by ICP	As by ICP			Received: 09/03/99
													Reported: 09/29/99
	Additional Comments: recovery in the contro should be considered a the calibration curve.	yes see attached	see attached	88	3	Nij Li			į		á	Result	
	Additional Comments: 2,4-Dimethylphenol and pyrene had low recovery in the control, spike and duplicate. Naphthalene concentration should be considered an estimate because the value exceeds the high end of the calibration curve.		Ģ	ug/L	משלו.	10/1	ma/I.	10 / t	10/I	10/11 12/20	110/1	Units	
	hylphenol and p nd duplicate. because the va			120	و. ور آ	14	0.010	0.0032	4.7		42	TOD	
	yrene had Naphthale lue excee			120	23	51	0.035	0.011	17	<u>.</u>	150	501	
	pyrene had low Naphthalene concentration value exceeds the high end		SW846 8021	SW846 6010 09/29/99 :	SW846 6010	SW846 6010	SW846 6010	EPA 335.4	SW846 6010	SW846 6010	SW846 6010	Method	
	ition end of		3510 09/03/99 721026460	09/29/99 721026460	09/29/99 721026460	09/29/99 721026460	09/29/99 721026460	09/09/99 721026460	09/29/99 721026460	09/29/99 721026460	09/29/99 721026460	Analyzed Lab	
						_				_			

**ANALYTICAL REPORT** 

PAGE: NLS PROJECT# 50055

NLS CUST#

8098

Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711

Client:

Project Description: NSP Project Title: 05644-008

Arsenic, dis. as As by ICP Chromium, dis. as Cr by ICP Copper, dis. as Cu by ICP Copper, dis. as Cu by ICP Cyanide, tot. (distilled) as Cl Iron, dis. as Fe by ICP Lead, dis. as Pb by ICP Nickel, dis. as Ni by ICP Zinc, dis. as Zn by ICP VOCs (water) by EPA 8021
Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C Sample ID: MW-12 NLS#: 211212 Ref. Line 7 of COC 39588 Description: MW-12 Collected: 09/02/99 Received: 09/03/99 Reporter Parameter S Reported: 09/29/99

ND ND 7.6 0.033 0.043 1.6 > 3.0 Additional Comments: 2,4-Dimethylphenol and pyrene had low recovery in the control, spike and duplicate. Naphthalene concentration should be considered an estimate because the value exceeds the high end of the calibration curve. see attached see attached 1/6n 1/6m 1/6m 1/6m 1/6m 1/6m 1/6m 1/6m 4.2 0.42 0.47 0.0032 0.0010 1.4 0.66 15 1.5 1.7 0.011 0.0035 5.1 2.3 DOT SW846 6010 09/29/99 721026460 SW846 6010 09/29/99 721026460 SW846 6010 09/29/99 721026460 EPA 335.4 09/09/99 721026460 SW846 6010 09/29/99 721026460 SW846 6010 09/29/99 721026460 SW846 6010 09/29/99 721026460 SW846 6010 09/29/99 721026460 SW846 8021 09/29/99 721026460 SW846 8021 09/16/99 721026460 SW846 3510 09/03/99 721026460 SW846 3510 09/03/99 721026460 SW846 3510 09/03/99 721026460 Analyzed Lab

#### ANALYTICAL REPORT

	Ġ.
	PAGE: 8
NLS	NLS
CUST#	S PROJECT#
8608	50055

Client: Dames & Moore
Attn: Dave Trainor
25 Kessel Court
Suite 201
Suite 201
Madison, WI 53711
Project Description: NSP
Project Title: 05644-008

	VOCB (water) by EPA 8021  Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C	Iron, dis. as Fe by ICP Lead, dis. as Pb by ICP Nickel, dis. as Ni by ICP Zinc, dis. as Zn by ICP	Arsenic, dis. as As by ICP Chromium, dis. as Cr by ICP Copper, dis. as Cu by ICP Cyanide, tot. (distilled) as CN		Sample ID: MW14 NLS#: 211213 Ref. Line 8 of COC 39588 Description: MW14 Collected: 09/02/99 Received: 09/03/99 Reported: 09/29/99
Additional Comments: 2,4-Dimethyl recovery in the control, spike and should be considered an estimate be the calibration curve.	Additional Comments: I yes see attached		ND ug/L c 0.45 > ug/L ng/L nD ug/L 0.16 mg/L	Result	
2,4-Dimethylphenol and pyrene had low, spike and duplicate. Naphthalene co estimate because the value exceeds the same the calculate because the same consecutive.	Additional Comments: Estimated concentration for benzene es etached		0.42 0.42 0.47 1 0.0032 0.0010 0.0010		
Additional Comments: 2,4-Dimethylphenol and pyrene had low recovery in the control, spike and duplicate. Naphthalene concentration should be considered an estimate because the value exceeds the high end of the calibration curve.	or benzene SWB46 3510 09/03/99 721026460 SWB46 09/17/99 721026460 B270C		09/29/99 09/29/99 09/29/99 09/09/99 09/29/99	10.	•

**ANALYTICAL REPORT** 

PAGE: 9 NLS PROJECT# 50055

NLS CUST#

8608

Client:

Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711

Project Description: NSP Project Title: 05644-008

Sample ID: Trip Blank NLS#: 211214
Ref. Line 9 of COC 39588 Description: Trip Blank
Collected: 09/02/99 Received: 09/03/99 Reported: 09/29/99

Values in brackets represent results greater than the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than the LOQ are considered to be in the region of "Certain Quantitation".

LOQ = Limit of Quantitation NA = Not Applicable

VOCs (water) by EPA 8021

LOD = Limit of Detection DWB = Dry Weight Basis

Parameter

Regult

see attached

Units

8

50

SW846 8021 09/16/99 721026460 Analyzed Lab

Authorized by: R. T. Krueger Laboratory Manager

Reviewed by: Atum R. ami ND = Not Detected %DWB = (mg/kg DWB)/10000

ANALYTICAL RESULTS: 8021 list by Method 924.2 (Saturn 3) Page: 1

FACTOR 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	FACTOR USI/L 2 0.26 2 0.30 2 0.28 2 0.27 2 0.34
	LOD <u>USI/L</u> 0.26 0.30 0.28 0.27 0.34

ANALYTICAL RESHLES: 8021 list by Method 524.2 (Saturn 4) Page: 2

(ustomen: Dames & Moore Project Description: NSP Project Tille: 05644-008

meta,para Kylene Surrogate Recovery on Surrogate Recovery on	1, 3, 5 Trimethylbenzene	1,2,4 Trimethylbenzene	Toluene	ortho-Xylene	n-Propylbenzene	Naphthalene	p-Isopropyltoluene	1sopropylbenzene	sec-Butylbenzene	n-Butylbenzene	Benzene	Name	Analyte		Northern Lake Service Project Number: 50055
meta,para Xylene Surrogate Recovery on 4 Bromofluorobenzene = 111 % Surrogate Recovery on 1.2 Dichlorobenzene d% = 108 %	•														Project Number: 50055
	2500	490	720	1200	1400	NO TO	6400	N.S.	< 140 >	<b>3</b>	No	3600	na/r	211207 MW-4	
	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	FACTOR	DILUTION	
	250	120	120	130	120	100	170	130	130	140	150	130	·1/6n	100	
	860	130	420	450	400	360	980	460	460	480	520	440	1761	. 60	

AMALYTICAL RESULTS: 802) list by Method 524.2 (Saturn 3) Page: 3

Customer: Dames & Moore Project Description: NSP Project Title: 05644 008 Northern Lake Service Project Number: 50055

Analyte  Name  Renzene  Benzene  n.Butylbenzene  sec.Butylbenzene  lsopropylbenzene  p.Isopropylbenzene  p.Isopropylbenzene  n.Propylbenzene  n.Propylbenzene  n.Propylbenzene  1,2,4-Trimethylbenzene  1,3,5-Trimethylbenzene  surrogate Recovery on 4-Bromofluorobenzene = 100 %  Surrogate Recovery on 1,2 Dichlorobenzene d4 = 102 %	Northern Lake Service Project Bunder: 50055
211208 MW-4 Dup  192/L 3400 ND ND ND ND ND 1200 1200 2900 440 280 > 2000  100 \$	
FACTOR FACTOR 1000 1000 1000 1000 1000 1000 1000 10	
140 140 130 440 150 520 140 480 130 460 130 460 170 580 170 580 170 400 170 400 170 400 120 400 130 420 140 420 140 430 150 860	

ANALYTICAL RESULTS: 8021 list by Method 524.2 (Saturn 3) Page: 4

Customer: Dames & Moore
Project Description: NSP Project Title: 05644-008
Northern Lake Service Project Number: 50055

surrogate Recovery on 4-Bromofluorobenzene = 106 % Surrogate Recovery on 1.2-Dichlorobenzene-d4 = 100 %	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	Toluene	ortho-Xylene	n Propylbenzene	Naphthalenc	p. Isopropyltoluene	1sopropy1benzene	sec-Butylbenzene	n-Butylbenzene	Benzene	Name	Analyte		Northern Lake Service Project Number: 50055
	3100	< 170 >	540	9300	1500	ND	9600	2	<b>S</b> :	No.	ND	14000	711203 MM: 40	21200 85 42	
	500	500	500	500	500	500	500	500	500	500	500	1000	FACTOR	NOTTULID	
	130	62	60	65	58	52	84	67	66	69	76	130	ug/L	<u></u>	
	4	210	210	220	200	180	290	230	230	240	, ac	440	1/bn	ğ	

# ANALYTICAL RESULTS: HO21 list by Method 524.2 (Salurn 3) Page: 5

Customer: Dames & Moole
Project Description: NSP Project Title: 05644-008
November: 50055

J	211210 MW-4H	DILLLION	5
Analyte	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	FACTOR	rg/L
	78	10	1.3
Benzene	5 6	10	1.5
n-Butylbenzene	3 6	10	-
sec-Butylbenzene		5	1.3
I sopropy l benzene		10	_ •
p-Isopropyltaluene	• ;	10	1.7
Napht halene	¥;	5	0
n Propyllanzene	~ 1	5	1.2
ortho Kylene		10	1.3
		10	1.2
1,2,4 Trimcthylbenzene		10	1.2
	10	10	2.5
meta, para-Xylene	;		

ANALYTICAL RESULTS: BO21 List by Method 524.2 (Saturn 3)
Page. 6

Customer: hames & Moore Project Description: NSP Project Title: 05644-008 Northern Lake Service Project Number: 50055

Surrogate Recovery on 1.2-Dichlorobenzene-d4 = 99.0 %	1, 3, 5 transcriptions	1,2,4 Trimethylbenzene	Tollene	or cho-wytere	n-Propyrouizene	Naphichaterie	p-1sopropyrorueite	Isobropythetizete	sec Bucy Denzerie	n-Butylpenzene	Benzelle	Name	Analyce		
= 105 % d4 = 99.0 %	1700	< 120 >	360	4600	780	No.	4500	NO TO	ND :		ND	2900	ug/L	211211 MW-7A	
	500	500	500	500	500	500	500	500	500	500	500	500	FACTOR	NOTTWILD	
	130	62	60	65	88	52	94	67	66	69	76	64	1/6n	TQD	
	430	210	210	220	200	180	290	230	230	240	260	220	176ii	8	

# ANALYTICAL RESULTS: 8021 list by Method 524.2 (Saturn 3) Page: 7

Customer: Dames & Moore Project Description: NSP Project Title: 05644-008 Northern Lake Service Project Number: 50055

Surrogate Recovery on 4-Bromofluorobenzene = 109 % Surrogate Recovery on 1,2-Dichlorobenzene-d4 = 107 %	1, 3, 5-Trimethy Delizere	1,2,4-Trimethylbenzene	Toluene	ortho-Xylene	n-Propy Lbenzene	Naphthalene	p-Isopropyltoluene	Isopropylbenzene	sec-Butylbenzene	n-Butylbenzene	Benzene	Name	Analyte		Northern Lake Service Project Number: 50055
luorobenzene = 109 % lorobenzene-d4 = 107 %	< 25 >	× 9.8 ×	< 18 >	< 9.4 ×	34	NO !	570	NO ;		ND :	ND :	120	vg/L	211212 MW-12	Cimper: 30033
	50	50	50	50	50	50	50	50	50	50	50	50	FACTOR	DILUTION	
	13	6.2	6.0	6.5	5.8	5.2	8.4	6.7	6.6	6.9	7.6	6.4	1/P	DQD	

101/L 

ANALYTICAL RESULTS: BOZI list by Method 524.2 (Saturn 3)
Page: 8

Customer: Dames & Moore
Project Description: NSP Project Title: 05644-008
Northern Lake Service Project Number: 50055

<pre>meta.pata.sylvans</pre> Surrogate Recovery on 4-Bromofluorobenzene = 100 % Surrogate Recovery on 1,2-Dichlorobenzene-d4 = 100 %	1,3,5-Trimechytoenzene	1,2,4-Trimethylbenzene	Toluene	ortho Xylene	n-Propylbenzene	Naphthalene	p-Isopropyltoluene	Isopropylbenzene	sec-Butylbenzene	n-Butylivenzene	Benzene	N. Daw.	Analyte		Northern Lake Service Project Number: 50055
-d4 = 100 \$	1800	< 130 >	390	7300	1000	8	9000	ND '	< 87 >	ND T	No	11000	wo/I.	211213 MW14	v
	500	500	500	500	500	500	500	500	500	500	500	500	FACTOR	NOTERING	
	130	62	60	65	58	52	84	67	66	69	76 .	64	,175ñ	(G)	

#### ANALTTICAL RESULTS: 8021 118L by Method 524.2 (Saturn 3) Page: 9

CHBLOMET: DANKER & MOONE Project Description: NSP Project Title: 05644-008 Northern Lake Service Project Number: 50055

Surrogate Recovery on 4-Bromofluorobenzene = 100 % Surrogate Recovery on 1,2-Dichlorobenzene-d4 = 95.0	1,3,5-Trimethylbenzene	1, 2, 4-Trimethylbenzene	Toluene	ortho-Xylenc	n-Propylbenzene	Naphthalene	p-Isopropyltoluene	Isopropylbenzene	sec-Butylbenzene	n-Butylbenzene	Benzene	Name	Analyte	
5.0 #	ND :	S :	ND :	<b>S</b>	5	ND I			S (	5 1	ND	NO.		2012)4 Trip Blank
	_	-	_	<b></b>	_	<b>p.</b> -	_	-	-	_	-	-	FACTOR	NOTATION 10
	0.25	0.12	0.12	0.13	0.12	0.10	0.17	0.13	0.13	0.14	0.15	0.13	ug/1.	<u>6</u>
	0.86	0.43	0.42	0.45	0.40	0.36	0.58	0.46	0.46	0.48	0.52	0.44	1/61	<u>5</u> 0

# ANALYTICAL RESULTS: Semi Volatile Organic Compounds by EPA 8270C Page: 1 $\,$

Customer: Dames & Moore Project Description: NSP Project Title: 05644-008 Northern Lake Service Project Number: 50055

Surrogate Recovery on 2-Fluorophenol = 68.5 \$ Surrogate Recovery on Phenol-d5 = 48.0 \$ Surrogate Recovery on Nitrobenzene-d5 = 68.3 \$ Surrogate Recovery on 2-Fluorobiphenyl = 89.3 \$ Surrogate Recovery on 2,4.6 Tribromophenol = 102 \$ Surrogate Recovery on Terphenyl-d14 = 109 \$	Pyrene	Phenol	Phenanthrene	Naphthalene	3 & 4 Methyphenol	2 · Methy lphenol	2 · Methylnaphthalene	Indeno[1,2,3-cd]pyrene	Fluorene	Fluoranthene	2.4 Dimethylphenol	Dibenzo (a, h) anthi acene	hi n butylphthalate	Chrysene	Butylbenzylphthalate	Benzo(k)fluoranthene	Benzo [g,h,i] perylene	Benzo (b) f luoranthene	Benzo (a) pyrene	Benzo (a) anthracene	Anthracene	Acenaphthylene	Acenaphthene	Name	Analyte
•	< 3.9 ×	ND	22	14	NC	ND	N	NO	5.9	5.0	N.C	Ę	ž	2	¥	N.C	ND	N.C	N.	3.1	7.0	< 3.5 >	24	1/bn	211206 MW-3
		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_		FACTOR	DILUTION
	1.3	0.76	0.65	1.5	1.5	1.3	1.4	0.69	1.1	0.67	3.1	0.65	<del>.</del> •	0.68	1.1	1.3	1.2	0.64	1.2	0.76	1.2	1.4	1.3	1/bn	TOD
	4.3	2.5	2.1	5.2	5.0	4.4	4 . B	2.2	3.6	2.2	10	2.2	٠	2.2	3.5	4.4	3.9	2.1	4.0	2.1	3.7	4.5	<del>1</del> .5	17/611	ē

ANALYTICAL RESULTS: Seen Volatile droportic Compounds by EPA 82700  $^{\circ}$  . Further  $\mathcal F$ 

Chistomer: Animes & Moute Project Description: NSP Project Title: 05644-008 Northern Lake Service Project Number: 50055

Pyrene	Phenol	Phenanthrene	Naphthalene	3 & 4 · Methyphenol	2 Methylphenol	2 Methylnaphthalene	Indeno[1,2,3-cd]pyrene	Fluorene	Fluoranthene	2,4-Dimethylphenol	Dibenzo (a, h) anthracene	Di-n-butylphthalate	Chrysene	Butylbenzylphthalate	Benzo (k) fluoranthene	Benzo(g,h,i)perylene	Benzo(b) fluoranthene	Benzo(a) pyrene	Benzo (a) anthracene	Anthracene	Acenaphthylene	Acenaphthene	Name	Analyte
ND	ND	NO	4500	ND	N.C	620	ND	ND	NU	ND	ND	ND.	ND	N	N.	N.	ND	ND	ND	ND	N	< 200 >	1 <u>/</u> En	211207 MW-4
100	100	. 100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	FACTOR	DILUTION
130	76	65	150	150	130	140	69	110	67	310	69	160	68	110	130	120	64	120	76	120	140	130	1/D	<b>G</b> 0-
430	250	210	520	500	440	180	220	360	220	1000	220	550	220	350	440	390	210	•00	210	370	450	450	ng/L	100

ANALYTICAL RESHIES. Semi Volatile Organic Compounds by RPA 82700 Page: 3

Customer: Dames & Moore
Project Description: NSP Project Title: 05644-008
Northern Lake Service Project Number: 50055

Pyrrin	Phenol	Phenanthrene	Naphthalene	3 & 4-Methyphenol	2-Methylphenol	2-Methylnaphthalene	Indeno[1,2,3-cd]pyrene	Fluorene	Fluoranthene	2,4-Dimethylphenol	Dibenzo (a, h) anthracene	Di-n-butylphthalate	Chrysene	Butylbenzylphthalate	Benzo [k] fluoranthene	Benzo (g, h, i   perylene	Benzo (b) f luoranthene	Benzo (a) pyrene	Benzo (a) anthracene	Anthracene	Acenaphthylene	Acenaphthene	N. tine	Analyte
ž	<u> </u>	420	3900	ND	ND	550	NO.	Đ	ND	¥	¥	N	ND	N.	ND	ND.	ND	ND	ND	ND	ND	< 200 >	175n	211208 MW: 4 Dup
10,	103	103	103	103	103	103	103	103	101	103	103	103	101	101	103	101	103	100	103	103	103	103	FACTOR	NOTTULIE
- 10	78	67	160	150	130	150	71	110	69	320	71	170	70	110	140	120	66	120	78	120	140	140		dor
110	260	210	530	520	450	500	230	370	220	1100	230	560	220	360	450	400	210	420	210	390	460	460	1/6n	QQ.

ANALYTICAL RESHLES: Semi Volatile Organic Compounds by EFA #2700 Page: 4

Customer: Danwes & Moure
Project Description: NSP Project Title: 05644-008
Northern Lake Service Project Number: 50055

211209 MM-4A DILJTION LOD LOQ  100	Analyte   Mane
------------------------------------	--

### ANALYTICAL RESULTS: Semi Volatile Organic Compounds by EPA 8270C Page: 5

Chstoner: Dames & Moore
Project Description: NSP Project Title: 05644-008
Northern Lake Service Project Number: 50055

Analyte	211210 MW-48	ENCHOR TON
Name	1/50	FACTOR
Acenaphthene	ND .	
Acenaphthylene	6.4	۔.
Anthraceire	UN	<b>-</b>
Benzo (a ) anthracene	ND	-
Benzolalpyrene	ND	
Benzo(b)fluoranthene	8	
Benzo(g,h,i)perylene	ND NO	_
Benzo (k) fluoranthene	ND	
Butylbenzylphthalate	N	
Chrysene	<u>N</u>	
Din butylphthalate	NE	-
Dibenzo (a, h) anthracene	E	-
2,4-Dimethylphenol	N.	
Fluoranthene	ND	
Fluorene	S	-
Indeno[1,2,3-cd]pyrene	ND	_
2-Methylnaphthalene	6.2	<b>L</b>
2 Methylphenol	ND	
6 4-Methyphenol	N	-
Naphthalene	37	_
Phenanthrene	ND	-
Phenol	ND	_
Pyrene	ND	_
Surrogate Recovery on 2-Fluorophenol = 34.2 %		
Surrogate Recovery on Phenol-d5 = 33.4 %		
Surrogate Recovery on Nitrobenzene-d5 = 85.7 %		
	•	
Surrogate Recovery on Terphenyl-dl4 = 66.5 %	,	

ANALYTICAL RESULTS: Semi Volatile Originic Compounds by ETA #2700 Page: 6

Project Description: NSP Project Title: 05644-008

Pyrene	Phenol	Phenanchicuse	Napitolaresio		3 L A Methyphenol	2 Methylphenol	2 - Methylmaphthalene	Indeno[1,2, 1 edlpyrene	Fluorenc	Fluoranthene	2,4-Dimethylphenol	Dibenzola, ni anchi acelie	Di-n-bucyipiiciatace	Citybeire		Burvibenzylphthalate	Benzo [k] fluoranthene	Benzo(g,h,i)perylene	Benzo  b  fluoranthene	Benzo la J pyrene	Benzo [a] anthracene	Anthracene	Acenaphthylene	Acenaphonene	Name	Andayce		NOTCHELL PRINC OCCUPANT OF A PARTY OF A PART	Project Description Project Number: 50055
	No	No.	No.		5500	20	ND	720	NO	E S	ND	ND	ND	<b>N</b> E	2	<b>5</b> i	25	ND.	ND	NU	N	N	N	< 210 >	ND	11/En	211211 MW-7A	ļ	
	100	100	100	100	100	100	100	100	100		100		5 5	100	100	100	100	100	100	100	100	100	100			2	FACTOR	71 IT 10N	
	130		36	65	150	150	130		5			62.0	10	69	160	68	110	130	120			à	1 5	300	140		ug/I.	160	
	,	U.F.W	250	210	020	, ,	500	440	4 8 0	220	160	220	1000	220	550	022		1			310		3 10	170	450	450	1/E	\$	

ANALYTICAL RESULES: Semi-Velatile Organic Compounds by EFA-8270C Page:  $\sigma$ 

Customer: James & Moure Project Description: NSP - Project Tille: 05644-008 Northern Lake Service Project Number: 50055

Pyrene	Pheno!	Phenanthrene	Naphthatene	the state of the s	3 & 4 Methyphenol	2 Methylphenol	2-Methylnaphthalene	Indenoit, 2, 3 Cui pyrene	Figoratic	E) increase	Fluoranthene	2.4 Dimethylphonol	Dibenzo (a, h) anthracene	n- buckthirmarace	Con a Control of the	Chrysene	Butylbenzylphthalate	Benzo (k) fluoranthene	Benzo (g, h, i   perylene	Benzo (b) f luoranthene	Benzo (a) pyrene	Benzo (a) anthracene	Anthracene	Acenaphthytene	Acetaphone	Aceparati beno	N. and	
ND	ND	66		210	8	ND	; 0		25	ND	N.C.	3	3	5	5	8	ND	ND	2			3 3	; ?		ינוע	ND	1/150	211212 MW 12
15.38	15.38	13.30		15.38	15.38		16 30	181 21	15.38	15.38	15.18	10.00	10.10	91.51	15.38	15.38	15.38	15.38	15.30	15.30	19.00	10.00	16.36		15.38	15.38	FACTOR	NO LIPT 10
20	12	5	5	24	23	2 6	3 1	22	=	17	i			=	25	10	5		3 -	3.0	P .		10	<b>.</b>	۲ <u>۲</u>	21	<u>14/1</u>	1/010
66	9		ร	79		3 6	67	74	ų A	56			160	₩ <b>♣</b>	8	33	. 4	. 0	n 0	A 4		S 1	3 1	82	69	69	1760	Š

ANALYTICAL RESULTS: Semi Volatile Organic Compounds by BFA 8270C Page: 8

Customer: Dames & Moore Project Description: NSP Project Title: 05644-008 Northern Lake Service Project Number: 50055

NOITHERN PARK BELATCE ETOJECE MOMENTE DECAME				
	211213 MW14	DILUTION	TOD	ğ
Andiyle	wg/L	FACTOR	ug/L	1/E
Name	1500	244	330	1100
Acenapitchene	1600	244	956	1100
Acenaphthylene	1000		700	910
Anthracene	1700	. 4		
wenzofal ant hracene	1700	244	190	300
Desired to the second	N.	244	300	990
Bellaufal Pyrene	ND T	244	160	500
pelizo(D) racotalicies	ND	244	290	950
Belleo (4) 1) La per y activ	NO	244	320	1100
	NO.	244	260	860
	ND The state of th	244	170	530
of a but clabe balata	ND	244	400	1300
Carro in hispathracous	ND	244	170	530
2 A Dimethylphonol	< 1800 >	244	750	2500
C, 4 - Dime Cultapacaca	1200	244	160	510
Florage	1100	244	270	890
reduction 1 2 Collections	ND N	244	170	530
13dero 11, 2, 3 corpyrome	2700	244	350	1200
2 -Metry Induction	1400	244	320	1100
z metny phenot	2400	244	370	1200
3 P 4 : Mechyphenor	9100	244	380	1300
Napitulaterie	1400	244	160	510
Pitelialicizerie	20	244	190	620
Piero:	1200	244	310	1000
* Process				

#### NORTHERN LAKE SERVICE, INC.

NO. 39588

Analytical Labora: 27y and Environmental Services

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

	400 North Lake A	\venue *7 • Fa	<ul> <li>Crandon, WI 54520</li> <li>x: (715) 478-3060</li> </ul>	-1298	CHA	.IIV U	rc		ISCONSON Lath Cert. No.	
URN THIS FORM W				DNR LICEN	ISE			FID		
Dan	* A			PROJECT	75			-I		
RESS	301 (+ +	124	5	PROJECT	10. (	-α	<u>S</u>	P.O. NO	<b>)</b> .	
Madis	nul.	STATE	7/ ZIP	CONTACT	010	iN		PHONE	5)673-E	566
A NLS LAB. NO.	SAMPLE ID	DNR iO	DATE TIME	SAMPLE TYPE	GRAB/ COMP.		NER PRESE		COLLECTION	REMARKS
Zinka.	Muj-3		9/2 CRIS	CIL	GRAN	)		7		
description and or	VI.N-4		7 1015							
#1588.	AW-4 DUP		1 1015	·	1			44_		
211344	イントエス		1 1030					11_		
2038	<u> १०८५ हे                                    </u>		1180							
211211	W. JA		15W							
700	11 12 12		(a) PG (v)	4.					h	-
2.2.9	13 m - 101		V how	\Y	(b)	14	4	4	<u> </u>	
		1				-		_		·
		-	·					-		
The second						-				-
MPLE TYPE:				<u> </u>	I CON	TAINER	P	RESERVA	TIVES & PREPARA	TION
SW=surface WW=wastew GW=groundv describe oth	vater TIS=tissue water AIR=air	water	PROD=product SOIL=soil SED=sediment		P = p G = g V = g B = p	lastic	N S N Z	P = nothin = sulturic = nitric ac = zinc acc	ng added OH = sod acid HA = hyd sid asco state H = hydro	fium hydroxide rochloric & orbic acid ochloric acid
LECTED BY (signa	- 11010U	٠,			CI	USTODY S	SEAL NO.	<u>Q</u>	DATE/TIME	1150
LINOUISHED BY (sig	gnature)	U	RECEIVED BY (sign	nature)				, ,	DATE/TIME	– •
LINQUISHED BY (sig	gnature)		RECEIVED BY (sign	fature)					DATE/TIME	
PATCHED BY (signa	ature)		METHOD OF TRAN	ISPORT		•			DATE/TIME	;
CEIVED ATALS BY	n / Wille	11.C	9-03-99	10:15	S	DITION:	ICE	ace his	Calculated Open Comment	TEMP.
al intact   Yes  A    No	SEAL#			INFORMATIO	)N	-			170	
	1 - 52									

1. TO MEET REGULATORY REQUIREMENTS, THIS FORM MUST BE COMPLETED IN DETAIL AND INCLUDED IN THE SHIPPER CONTAINING THE SAMPLES DESCRIBED.

2. PLEASE USE ONE LINE PER SAMPLE. NOT PER BOTTLE.

3. RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.

120 -

PAGE: 1

NLS PROJECT# 49903

NLS CUST#

8098

#### **ANALYTICAL REPORT**

Project Description: K. Project Title: 05644-088 Client: Dames & Moore
Attn: Dave Trainor
25 Kessel Court
Suite 201
Madison, WI 53711 Park

Arsenic, dis. as As by IC Chromium, dis. as Cu by ICP Cyanide, tot. (distilled) Iron, dis. as Fe by ICP Lead, dis. as Pb by ICP Nickel, dis. as Pb ICP Zinc, dis. as Zn by ICP Base/Neutral/Acid Extractions Semivolatile GC/MS by 8270 Parameter Sample ID: MW-2 :NET NLS#: 210536
Ref. Line 1 of COC 39314 Description: MW-2 :NET
Collected: 08/26/99 Received: 08/27/99 Reported: 09/27/99

	Result	Units	TOD	00	Method	Analyzed Lab
ICP	ND	ug/L	4.2	15	510	09/21/99 721026460
1 JCF	2.1	ng/1.	0.42	<u>.</u> .	=	09/21/99 721026460
ICP	2.0	ug/L	0.47	1.7	ב	09/21/99 721026460
ed) as CN	0.012	ıng/L	0.0032	0.011	۵.	09/01/99 721026460
יסי	J.5	ıng/L	0.0010	0.0035	ב	09/21/99 721026460
יסי	< 2.5 >	ug/L	1.4	5.1	5	09/21/99 721026460
ICP	4.0	ug/L	0.66	2.3	ĭ	09/21/99 721026460
ס	13	ug/1	12	12	ĭ	09/21/99 721026460
ction	yes				5	08/28/99 721026460
270C	see attached					09/17/99 721026460
					8270C	
	Additional Comments: 2,4-Di	manents: 2,4-Dime and duplicate.	ts: 2,4-Dimethylphenol had low recovery in the duplicate.	low recove	ry in the	
	control, spike	and duplicate.				

\*

Client:

### **ANALYTICAL REPORT**

PAGE: N NLS CUST# NLS PROJECT# 49903 8098

Project Description: K. Project Title: 05644-088 Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711 Park

Sample ID: MW-2 NET Dup NLS#: 210537
Ref. Line 2 of COC 39314 Description: MW-2 NET Dup
Collected: 08/26/99 Received: 08/27/99 Reported: 09/27/99

	Arsenic, dis. as As by ICP Chromium, dis. as Cr by ICP Copper, dis. as Cu by ICP Cyanide, tot. (distilled) as CN Iron, dis. as Fe by ICP Lead, dis. as Pb by ICP Nickel, dis. as Pb by ICP Sinc, dis. as Zn by ICP Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C	Parameter
Additional Control, spike	ND 2.4 2.6 0.012 3.5 3.8 > 3.42 Yes see attached	Result
Additional Comments: 2,4-Dimethylph control, spike and duplicate.	1/6 1/6 1/6 1/6 1/6 1/6 1/6 1/6 1/6	Units
8270C hylphenol had low recovery in the	2 7 032 6	TOD TOO
	SW846 6010 09/21/99 SW846 3510 08/28/99 SW846 3510 08/28/99	Q Method Analyzed Lab

Client:

#### WIS. LAB CERT. NO. 721026460

### **ANALYTICAL REPORT**

PAGE: w NLS PROJECT# 49903

NLS CUST#

Sample ID: WE 27 NET NLS#: 210538
Ref. Line 3 of COC 39314 Description: MW-2A NET
Collected: 08/26/99 Received: 08/27/99 Reported: 09/27/99 Project Description: K. Project Title: 05644-088 Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711 Park 42%

Arsenic, dis. as As by ICP
Chromium, dis. as Cr by ICP
Copper, dis. as Cu by ICP
Copper, dis. as Cu by ICP
Cyanide, tot. (distilled) as CN
Iron, dis. as Fe by ICP
Lead, dis. as Pb by ICP
Nickel, dis. as Ni by ICP
Zinc, dis. as Zn by ICP
Base/Neutral/Acid Extraction
Semivolatile GC/MS by 8270C Parameter

ND ( 1.0 > ND yes see attached Result ND ND 0.020 Additional Comments: 2,4-Dimethylphenol, 2-methylphenol & 4-methylphenol had low recovery in the control, spike and duplicate. 1/6m 1/6m 1/6m 1/6m 1/6m 1/6m 4.2 0.42 0.47 0.0032 0.0010 1.4 0.66 15 1.5 1.7 0.011 0.0035 5.1 2.3 S L SW846 6010 09/21/99 721026460 SW846 6010 09/21/99 721026460 SW846 6010 09/21/99 721026460 EPA 335.4 09/01/99 721026460 SW846 6010 09/21/99 721026460 SW846 3510 08/28/99 721026460 SW846 3510 08/28/99 721026460 SW846 3510 08/28/99 721026460 Method Analyzed

#### **ANALYTICAL REPORT**

PAGE: 4 NLS PROJECT# 49903

NLS CUST#

Client:

Dames & Moore
Attn: Dave Trainor
25 Kessel Court
Suite 201
Madison, WI 53711
Project Description: K Park
Project Title: 05644-088

MW-2A MA

Sample 1D: MW-28" NET NLS#: 210539
Ref. Line 4 of CCIT.39314 Description: MW-28 NET
Collected: 08/26/99 Received: 08/27/99 Reported: 09/27/99

Arsenic, dis. as As by ICP Chromium, dis. as Cu by ICP Copper, dis. as Cu by ICP Cyanide, tot. (distilled) as CN Iron, dis. as Fe by ICP Lead, dis. as Fb by ICP Nickel, dis. as Ni by ICP Sinc, dis. as Zn by ICP Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C Parameter Result 0.44 0.52 ND 0.053 ND 0.80 g yes see attached 1/6n 1/6m 1/6m 1/6m 1/6m 1/6m 4.2 0.42 0.47 0.0032 0.0010 1.4 0.66 15 1.5 1.7 0.011 0.0035 5.1 2.3 001 SW846 6010 09/21/99 7 SW846 6010 09/21/99 7 SW846 6010 09/21/99 7 EPA 335.4 09/01/99 7 SW846 6010 09/21/99 7 SW846 3510 08/28/99 7 SW846 3510 08/28/99 7 SW846 3510 08/28/99 7 SW846 09/03/99 7 Analyzed

721026460 721026460 721026460 721026460 721026460 721026460 721026460 721026460 721026460

Additional Comments: 2,4-Dimethylphenol had low recovery in the control, spike and duplicate.

#### WIS. LAB CERT. NO. 721026460

		< 185			170	0.770			4 6-
Parameter	Sample ID: WHO 24 NET ALL Ref. Line 3 of COC Description: WW-2A NET Collected: 08/26/99 Received: 08/31/99	VOCE (water) by EPA 8021	Sample ID: MW-2 NET Dup Ref. Line 2 of COC Description: MV Collected: 08/26/99 Received: 08	VOCB (water) by BPA 8021	Parameter	Sample ID: MW-2 NET Ref. Line 1 of COC Description Collected: 08/26/99 Receive	Project Description: K. Project Title: 05644-088	Client:	Tel:(715)478-2777 Fax:(715)478-3060
	NET NET WW-2A NET Received: 08/31/99		N-2 NET D	_		-2 NET NLS#: Description: MW-2 NET Received: 08/31/99 R	K. Park -088	Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711	60
	NLS#: 210747 NET 99 Reported: 09/27/99	) KS/A	NLS#: 210746 up Reported: 09/27/99			: 210745 Reported: 09/27/99		ore Trainor Court I 53711	
Result		Result see attached		sec attached	Result				ANALYTICAL REPORT
Units		Units			Units			·	REPORT
10D		rop			ДОД				
ГОО		FOX			001				PAGE: 5
Method		Method SW846 8021		SW846 8021	Method	•		NLS CUST#	NLS PROJECT# 49903
Method Analyzed Lab		Method Analyzed Lab SW846 8021 09/08/99 721026460		SW846 8021 09/08/99 721026460	Analyzed Lab	•	-	098	CT# 49903

	SBSETTOSCH P CBS	VO Pa CARS	7 T T T T T T T T T T T T T T T T T T T
	Sample ID: MW-1 NET  Ref. Line 1 of COC 39316 Description: MW-1 NET  Collected: 08/27/99 Received: 08/31/99 Reported: 09/27/99  Parameter  Arsenic, dis. as As by ICP Chromium, dis. as Cr by ICP Copper, dis. as Cr by ICP Copper, dis. as Cr by ICP Cyanide, tot. (distilled) as CN ITON, dis. as Fe by ICP Lead, dis. as Fe by ICP Lead, dis. as Pb by ICP Licad, dis. as Ni by ICP Metals digestion - total (water) ICP WOCS (water) by EPA 8021  Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C		TH:(715)478-2777 Fux:(715)478-3060  TH:(715)478-2777 Fux:(715)478-3060  Th:(715)478-2777 Fux:(715)478-3060  Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711  Project Description: K. Park Project Title: 05644-088
Additional Comments: Naphthacontrol, spike and duplicate.	Result ND ND ND 1.3 > < 0.0040 >	Result see attached	ANALYTICAL REPORT
	Units  Units  Units  Unj/L  ug/L  ug/L  ug/L  ug/L	Units	REPORT
Naphthalene concentration s	LOD 4.2 0.42 0.47 0.0032 0.0010 1.4 0.66	āoī	
mcentration	15 1.5 1.7 0.011 0.0035 5.1 2.3	80g	PAGE: 6
Naphthalene concentration should be considered	Mathod   Analyzed   Lab	Method Analyzed Lab SW846 8021 09/08/99 721026460	NLS PROJECT# 49903 NLS CUST# 8098

Client:

#### ANALYTICAL REPORT

PAGE: 7 NLS PROJECT# 49903 NLS CUST#

8098

Project Description: K. Park Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711

	Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C		Metals digestion - total (motor) - vocs (water) by EPA 8021	Nickel, dis. as In by ICP Zinc, dis. as In by ICP	Lead, dis. as by the Lead, dis. as by the	Cyanide, tot. (distilled) as CN	as As by ICP		Ref. Line 2 of Collected: 08/27/99 Received: 08/31/99 Reported: 09/27/99	Sample ID: MW-3 NET NLS#: 210750	Project Title: 05644-088
Additional Comments: 2,4-DimethyIphenor had row recover, control, spike and duplicate.	see attached	QC limits for Naphthalene at 131%.	see attached  Additional Comments: Unidentified hydrocarbons present.  Additional Comments: Unidentified hydrocarbons present.		< 1.6 > 09/L 8.6 ug/L		< 0.61 > ug/L 16 ug/L		Pagulf Units		
Iphenor had row record	to the second		~ _		0.66 2.3 12 12		0.47 1.7		TOD		
	8270C	SW846 3510 09/02/99 721026460 SW846 09/17/99 721026460		SW846 3010 09/03/99 721026460 SW846 8021 09/10/99 721026460	SW846 6010 09/21/99 721026460 SW846 6010 09/21/99 721026460	09/21/99	SWB46 6010 09/21/99 721026460 SWB46 6010 09/21/99 721026460 EPA 335.4 09/07/99 721026460	SW846 6010 09/21/99 721026460   SW846 6010 09/21/99 721026460	Method Analyzed Lab	•	

Client:

**ANALYTICAL REPORT** 

PAGE: 8 NLS PROJECT# 49903 NLS CUST# 8098

Project Description: K. Park Project Title: 05644-088 Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711

Sample ID: TW-11 NET NLS#: 210751
Rel. Linu 3 of CUC 39316 | Description: TW-11 NET
Collected: 08/27/99 | Received: 08/31/99 | Reported: 09/27/99

	Semivolatile GC/MS by 8270C		1000	Metals digestion - cotair	Zinc, dis. as Zn by ICP	Nickel, dis. as Ni by ICP	Lead, dis. as Pb by ICP	Iron, dis. as F	•	Copper, dis. as	Chromium, dis.	Arsenic, dis. a		Parameter	
	MS by 8270C			Wetals digestion - total (water) its Voca (water) by EPA 8021	n by ICP	Ni by ICP	b by ICP	e by ICP	(distilled) as CN		as Cr by ICP	as As by ICP			
Additional C control, spik	see attached	recovery was	Additional C percent diffe	gee attached	< B 0	150	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	, , ,	120	100	* C. O	200	i	Result	
Additional Comments: 2,4-Dimethylphenol had low recovery in the control, spike and duplicate.		recovery was outside QC limits for	Additional Comments: Matrix spike percent difference exceeded control		i v	110/L	))G/I.	10/1	10/L	mo/I.	17/En	19/L	112/1	Units	
lphenol had l					i	12	0.66	1.4	0.0010	0.0032	0.47	0.42	<b>A</b>	TOD	
OM TECOVE		at 128%.	Naphthaler			12	2.3	5.1	0.0035	0.011	1.7	1.5	15	QQ.	
cy in the	SW846 8270C	SW846 3510 09/02/99 721026460	limits for Naphthalene. Check standard	SW846 8021	SW846 3010 09/03/99 721026460	SWB46 6010	SW846 6010	SW846 6010	0	EPA 335.4	SW846 6010	SW846 6010	SW846 6010	Method	i
	09/17/99	09/02/99	tandard	09/09/99	09/03/99	09/21/99	09/21/99	09/21/99	09/21/99	09/07/99	09/21/99 721026460	09/21/99	09/21/99	Analyzed Lab	
	09/17/99 721026460	721026460		721026460	721026460	721026460	09/21/99 721026460	721026460	721026460	09/07/99 721026460	721026460	721026460	721026460	Lab U	•

ANALYTICAL REPORT

PAGE: 9 NLS PROJECT# 49903
NLS CUST# 8098

Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711

Client:

Project Description: K. Park Project Title: 05644-088

	Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C	VOCs (water) by EPA 8021	Zinc, dis. as Zn by ICP Metals digestion - total (water) ICP	Lead, dis. as Pb by ICP Nickel, dis. as Ni by ICP	Cyanide, tot. (distilled) as CN Cyanide, tot. (distilled) as CN Iron. dis. as Fe by ICP	Arsenic, dis. as As Dy ICP Chromium, dis. as Cr by ICP Copper dis as Cu by ICP		Sample ID: TW-11 NET DUP NILS#: 414/34 Ref. Line 4 of COC 39316 Description: TW-11 NET DUP Rof. Line 4 of COC 39316 Description: TW-11 NET DUP Ref. Line 4 of COC 39316 Descri	
Additional Comments: 2,4-Dimethylphenol had low recovery in the control, spike and duplicate.	yes see attached	Additional Comments: Matrix spike and matrix spike duplicate Additional Comments: Matrix spike and matrix spike duplicate percent difference exceeded control limits for Naphthalene. Check standard recovery was outside QC limits for Naphthalene at 128%.  SWR46 3510 09/02/	Yes Strains	< 2.1 > ug/L < 0.96 > ug/L		ND ug/L	ND ug/L		
lylphenol had low		ke and matrix spi ol limits for Nap r Naphthalene at		$ \begin{array}{cccc} 0.66 & 2.3 \\ 12 & 12 \end{array} $	0	0.42 1.5 0.47 1.7		10n 100	
recovery in the	SW846 8270C	ke duplicate hthalene. Check sta 128%.	SW846 3010 ( SW846 8021 (		G	1.5 SW846 6010 0 1.7 SW846 6010 0 0.011 EPA 335.4 0		Method	
	09/17/99 721026460	cate . Check standard . 7510 09/02/99 721026460	09/03/99 721026460	09/21/99 721026460	09/21/99 721026460 )9/21/99 721026460	SW846 6010 09/21/99 721026460 SW846 6010 09/21/99 721026460 EPA 335.4 09/07/99 721026460	09/21/99 721026460	Analyzed Lab	

Client:

Project Description: K. Park Project Title: 05644-088

#### **ANALYTICAL REPORT**

PAGE: 10 NLS CUST# NLS PROJECT# 49903

8098

Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711

				_			
	VOCs (water) by EPA 8021 Base/Neutral/Acid Extraction Semivolatile GC/MS by 8270C	Nickel, dis. as Ni by ICP Zinc, dis. as Zn by ICP Metals digestion - total (water) ICP	Iron, dis. as Fe by ICP Lead, dis. as Pb by ICP	Copper, dis. as Cu by ICP Cyanide, tot. (distilled) as CN	Arsenic, dis. as As by ICP Chromium, dis. as Cr by ICP	Parameter	Sample ID: TW-12 NET NLS#: 210753 Ref. Line 5 of COC 39316 Description: TW-12 NET Collected: 08/28/99 Received: 08/31/99 Reported: 09/27/99
Additional Co	see attached yes see attached	yes	< 2.1 ×	ND ND	N N	Result	/99
Additional Comments: Naphthalene reestimate since this value exceeds the		ug/L	17 pg/1.	mg/L	ug/L Ug/L	Units	
e result shou		12	0.46 0.40 0.40 0.40	0.0032	0.42	Top Top	
sult should be considered an upper calibration standard.		12	9 UT 6	0.011	1.5	Por	
idered an standard.	SW846 8021 09/0 SW846 3510 09/0 SW846 09/0	SW846 6010 09/3	SW846 6010 09/2	SW846 6010 09/. EPA 335.4 09/0	SW846 6010 09/	Method Ana.	•
	09/08/99 721026460 09/02/99 721026460 09/03/99 721026460	09/21/99 721026460 09/03/99 721026460	21/99 721026460 21/99 721026460	21/99 /21026460 07/99 721026460 31/99 721026460		Analyzed Lab	

Client:

WIS. LAB CERT. NO. 721026460

#### **ANALYTICAL REPORT**

PAGE: 11 NLS CUST# NLS PROJECT# 49903 8098

Dames & Moore Attn: Dave Trainor 25 Keasel Court Suite 201 Madison, WI 53711

Project Description: K. Project Title: 05644-088 Park

Sample ID: Trip Blank NLS#: 210754
Ref. Line 6 of COC 39316 Description: Trip Blank
Collected: 08/28/99 Received: 08/31/99 Reported: 09/27

Reported: 09/27/99

VOCs (water) by EPA 8021

Parameter

LOD = Limit of Detection DWB = Dry Weight Basis

Result

see attached

Units

S

50

Method

Analyzed Lab

SW846 8021 09/08/99 721026460

ND = Not Detected %DWB = (mg/kg DWB)/10000

LOQ = Limit of Quantitation NA = Not Applicable

Values in brackets represent results greater than the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than the LOQ are considered to be in the region of "Certain Quantitation".

Atum R. Cum

Authorized by:

R. T. Krueger Laboratory Manager

Reviewed by:

ANALYTICAL RESULTS: VOC'S by EPA 8021 - WAREL (CXN)
Page: 1

Customer: Dames & Woote
Project Description: K. Park Project Title: 05644-088

				•
	210745 MW-2 NET	DILUTION	500	Ş
Andlyce	<u>11/6</u> u	FACTOR	1/160	11/2
Benzene	370	) A.	ж ф .г. с	29 :
n-Butylbenzene	< 8.7 >	3 6	7.0	24
sec-Butylbenzene	<b>3 3</b>	25	6.3	22
Isopropylbenzene	5 8	N (	1	8
p-Isopropyltoluene	360	25	6.2	22
Naphthalene	200	25	6.7	23
n-Propylbenzene	2 6	25	12	41
ortho-Xylene/Styrene	23	25	6.0	21
Toluene	4 21 V	25	6.7	23
1,2,4 Trimethylbenzene	N	25	6.8	23
1, 3, 5-Trimethylbenzene	<b>.</b>	25	12	t
meta, para-Xylene				
Surrogate Recovery on 2-Bromochlorobenzene-PID =	ID = IOB 4			
	210746 MW-2 NET Dup	DILUTION	5	Ş
Name	1/5n	25	6.0	21
Benzene		25	<b>5</b>	29
n-Butylbenzene	\	25	7.0	24
sec-Butylbenzene		25	6.3	22
Isopropylbenzene	5	25	=	<b>.</b>
p-Isopropyltoluene	480	25	6.2	22
Naphthalene	NO :	25	6.7	23
n-Propylbenzene	55	25	12	1
ortho-xylene/stylene	22	N 55	6.0	2 1
1 2 4-Trimethy)benzene	· 22 ·		6.	2 6
1, 3, 5-Trimethylbenzene	8	25.0	12	t (
meta, para-Xylene 2. Bromochlorobenzene PID = 108 %	PID - 108 1 MW-28 NET			
		NOT THE TOTAL OF	E05	200
Analyte		FACIOR	175	175n
N. acid	19000	250	000	1000
Benzene	2600	1250	420	1500
n-Butylbenzene	< 370 >	1250	350	1200
sec-ButyIbenzene	S	1250	320	1100
Isopropylbenzehe	UN :	1250	700	2400
p Isopropy Cornene	9000	1250	310	1100
Naphthalene	ND	1250	340	1200
n-Propylbenzene	< 900 >	1250	590	2000
ortho-xylene/stylene	9700	1250	300	1000
Toluene	NO.	1250	330	1200
1, 2, 4 III methylbenzene	ND	1250	340	1200
1, 3, 5 Transchytochzene	< 1700 >	1250	620	2200

ANALYTICAL RESHLES: VOC'S by EPA 8021 Mater (CXB) Page: 2

## ANALYTICAL RESULTS: VOC'S by EIA 8021 - Maler (CXH)

Charlemen: Lemen & Moore
Project Dencipitons K. Park Project Tille: 0:044-088
Project Dencipitons K. Park Project Number: 49903

		3	3
210751 TW-11 NET	FACTOR	11/E	10 L
CIN	250	60	210
ND	250	; œ	2 4 6
ě	3 5 O	۳2 د	220
j 8	250	140	480
NO NO	250	62	220
1000	250	67	230
2 7	250	120	410
<u> </u>	250	60	210
* 190 ×	250	67	230
ND	250	68	230
< 160 >	250	120	430
117			
	DILUTION	TOD	\$
no/L	FACTOR	ug/L	1/0/1
UD	250	60	210
ND	250	1 8	240
ND	250	2 5	220
; <del>8</del>	250	140	180
3800	500	120	430
ND .	250	67	230
NO S	250	120	10
NO :	250	60	210
< 200 >	250	67	230
N	250	68	250
< 140 >	250	120	1,00
) = 114 1			
210753 TW 12 NET	DILUTION	מסו	50
ug/L	FACTOR	1/10/	176v
160	12.5		, c
N	12.5	.2	; ;
Ü	12.5		: 12
ND	12.5		: =
ND	12.5	7.0	24
210	12.5	3.1	: 1
ND :	12.5	υ. •	1
	12.5	5.9	20
	12.5	3.0	10
16	12.5	J. J	12
NU	12.5		
	;		
	PE	210751 TW-11 NET DIP  199/L  ND  ND  ND  ND  ND  ND  ND  ND  ND  N	210751 TW-11 NET DILUTION LA FACTOR LO LUTION ND LO LUTION ND LO LUTION ND LO LUTION ND LO LUTION ND LO LUTION ND LO LUTION ND LUTION LUTION ND LUTION ND LUTION ND LUTION ND LUTION ND LUTION LUTION ND LUTION LUTION ND LUTION LUTION ND LUTION LUTION ND LUTION LUTION ND LUTION LUTI

ANALYTICAL RESHUTS: VCC's by ETA HOZI - Mater (CXI) Page: 4

Customer: Dames & Moore
Project Description: K. Park Project Title: 05644-088
Northern Lake Service Project Number: 49903

meta,para-Xylene Surrogate Recovery on 2-Bromochlorobenzene-PID = 101 %	1 3 5-Trimethylbenzene	1,2,4-Trimethylbenzene	Toluene	ortho-Kylene/Styrené	n-Propylbenzene	Naphthalene	p-Isopropyltoluene	Isopropylbenzene	sec-butylbenzene	n-Butylbenzene	Benzene	Name	Analyte		Project Description: N. Fair
101 V		3 8	÷ ₹	5			5		<u>8</u>	ND .	2	N	- 7	210754 Trip Blank	
•	-	-	-	_	_	_	-	-	-	-	_	_	FACTOR	NOTIFIE	
;	0.50	0.27	0.27	0.24	0.47	0.27	0.25	0.56	0.25	0.28	0.34	0.24	11/6n	IOD	
	1.7	0.93	0.92	0.82	1.6	0.93	0.86	1.9	0.87	0.96		0.64	1701	5	

ANALYTICAL RESULTS: Some Volatile Organic Compounds by ETA H270C Page: 1

Customer: Dankes & Moore
project Description: K. Park Project Title: 05644-088

ION LOD R 19/LL 14 14 14 12 12 13 13 11 11 11 15 15 15 15 15 15 15 15 15 15	CE NUMBER: \$7700  210536 MM-2 NET FACTOR  10.2 63 10.2 63 10.2 73 ND 10.2 73 10.2 74 10.2 75 78 ND 10.2 78 ND 10.2	Northern Lake Service Project Number: 49903 Northern Lake Service Project Number: 49903 Northern Lake Service Project Number: 49903 Namalyte Namaly
---	---	--

ANALYTICAL RESHERS: Somi Velatite Organic Compounds by EFA 8270C Page: 2

Customer: Dames & Moore Project Title: 05644-088

Phenol Pyrene	Phenauthrene	Naphthalene	3 & 4-Methyphenol	2 - Methylphenol	2-Methylnaphthalene	Indeno(1, 2, 3-cd) pyrene	Fluorene	Fluoranthene	2,4-Dimethylphenol	Dibenzo (a, h) anthracene	Di n-butylphthalate	Chrysene	Butylbenzylphthalate	Benzo (k) fluoranthene	Benzo(g,h,i)perylene	Benzo [b] fluoranthene	Benzo (a) pyrene	Benzo (a) anthracene	Anthracene	Acenaphthylene	Acenaphthene	Name	Analyte		Project Description: K. Park Project Ti Project Description: K. Park Project Ti Northern Lake Service Project Number: 49903
																									Project Title: 05649-050 Aber: 49903
52	NC T	ND	310	ND	N	67	NE	ND :		NC	N.	¥ ·	ND	ND	75	71	B (		71	ND T	61	64	ug/L	210537 MW-2 NET Dup	- CD 0
10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	FACTOR	DILUTION	
ï	7.6		15	15	15	; <b>;</b>		<u> </u>	6.7	31	6.9	16	6.	=	13	12	6.4	12	7.6	12	: 4	: :	175	100	
ť		) k	2 6	3 2	1	: :	. N	3 6		2 5		ט ט ט		3 5	, a. 4. 1	: %	; <u>~</u>	2				n u	100	<u> </u>	}

# ANALYTICAL RESULTS: Semi Volutile Organic Compounds by EPA H270C page: 3

Pyrene	Phenol	Phenanthrene	Naphthalene	J. A. McLuyphener	A Marie Control		2 Med hylmaphibateric	Indeno(1,2,3-cd)pyrene	Fluorene	Fluoranthene	2,4-Dimechy i pricios	Dibenzo (a, il) ancia	DITTE CONTRACTOR	ni nihutviohthalate	Chrysene	Butylbenzylphthalale	Benzo (k) i Luorant neire	Benzolg, n, 11 per frenc	Benzo(b) Liberaliene	believe the fill or anthone	penyotal pyrene	Benzo (a) anthracene	Anthracene	Acenaphthylene	Acenaphthene	Name	AMALYCE		Notthern Lake Service	Project Descriptions of the Number 4	
	ND	ND	ND	3500	740		. 400 .	. 000 .	ND	ND	ě	< 760 >		5	8	N	ND	NU	NO.		5	ND	ND	N	ND	- 10	10/ <sub>5</sub>	210538 MM- CD-CCC	1	47.70 Kinese	Project Talle: 05644 088
	103	5 5	5 5	103	103	103	-			5	101	103	103	103	103				101	103	103	103	100	5 5		101	103	FACTOR	NOTTULION		
	•	130	78	67	160	100		ē	1,0	71	110	69	320	71	: :	30	70	110	140	120	0		5	7 8	120	140	140	1/Pn	1		
		440	260	210	530		5.20	<b>3</b> :	,00	230	370	220	1100		010	560	220	360	450	100	. !	3	420	210	390	460	460	1/10	8		

ate Recovery on 2-Fluorophenol = 45.3 % pate Recovery on Phenol d5 = 36.2 % pate Recovery on Nitrobenzene d5 = 61.5 pate Recovery on 2-Fluorobiphenyl = 61.6 pate Recovery on 2,4,6-Tribromophenol = 30.6 Recovery on Terphenyl-d14 = 70.0 % pate Recovery on Terphenyl-d14 = 70.0 %	Customer: Dumes & Moore Project Description: K. Park Project Title: 05644-088 Project Description: K. Park Northern Lake Service Project Number: 49903 Northern Lake Service Project Number: 49903 Northern Lake Service Project Number: 49903 Northern Lake Service Project Number: 49903 Northern Lake Service Project Number: 49903 Northern Lake Service Project Number: 49903 Northern Lake Service Project Number: 49903 Northern Lake Service Project Number: 49903 Northern Lake Service Project Number: 49903 Northern Lake Service Project Number: 49903 Northern Lake Service Project Number: 49903 Northern Lake Service Project Title: 05644-088 Northern Lake Project Title: 05644-088 Northern Lake Project Title: 05644-088 Northern Lake Project Title: 05644-088 Northern Lake Project Title: 05644-088 Northern Lake Project Title: 05644-088 Northern Lake Project Title: 05644-088 Northern Lake Project Title: 05644-088 Northern Lake Project Title: 05644-088 Northern Lake P
5 <b>.</b>	Per Orthanic Page: 4
	The Company
	WW. ZA
	DELIVITION DELIVERION 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03
	11.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4
	100 100 100 100 100 100 100 100 100 100

ANALYTICAL RESULTS: Semi Volstille Organic Compounds by EPA 8270C Page: 5

Customer: Dames & Moore
Project Description: K. Park Project Title: 05644-088
Northern Lake Service Project Number: 49903

Naphthalene Phenanthrene Phenol Pyrene	Indeno[1,2,3 cd] pyrene 2-Methyl naphthalene 2-Methyl phenol	Chrysene Din-butylphthalate Dibenzo[a,h]anthracene 2,4-Dimethylphenol Fluoranthenc	Anthracene Benzo (a) anthracene Henzo (a) pyrene Henzo (b) f tuoranthene Benzo (g) h, i) perylene Benzo (g) f tuoranthene Benzo (g) ft tuoranthene	Northern Lake Service Project Number: 49903 Analyte Name Acenaphthene Acenaphthylene
1200 900 ND ND	4 530 >	N N N N N	& & & & & & & & & & & & & & & & & & &	210749 MM 1 NET 191/L. < 500 > ND ND ND
204	204 204 204	204 204 204 204 204	204 204 204 204 204	DILUTION FACTOR 204 204 204
130 160 260	290 270 310	140 630 140 220	250 130 240 270 270	1.00 1.00 270 280
420 520 880	1000	450 2100 440 740	820 420 800 900 720 440	1.0Q <u>09/L</u> 910 920 760 420

ANALYTICAL RESULTS: Semi volatile organic Compounds by EPA 8270C Page: 6

Customer: Dames & Moore Project Description: K. Park Project Title: 05644-088 Northern Lake Service Project Number: 49903

Phenol	FileHancos	hansathrene	Naphthalene	& 4-mentyphone	Met hyphenol	?-Methylphenol	2-Methylnaphthalene	ndeno[1,2,3-cd]pyrelie	Fluorene	Fluoranthene	2,4 Dimethylphenol	n benzo (a, h) ant in acene	n a baylathalate	thi ysene	Butylbenzylphthalate	Benzo(k)fluoranthene	Benzolg, h, il perylene	Benzo(b) fluoranthene	Benzo (a) pyrene	Benzo (a) anthracene	Anthracene	Acenaphthylene	Acenaphthene	Name	Analyte		Northern Lake Service Project Number: 19903
	8		160	140	2	5 (	N :	<b>X</b>	ND :	9	240	ND :	¥ ;	<b>E</b>	240	XD:	170	150	190	200	NS :	170	130	140	ug/l.	210750 MW-3 NET	
20	20	,	20	20	)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	FACTOR	DILUTION	
26	: ;	15	ະ	91	1	30	26	29	7	22	13	62	=	11	-	21	26	23	13	24	15	24	27	27	ug/L	<b>10</b> 0	
œ		5	41		5	100	87	¥		7	t	21	:	=	<u>م</u>	70	88	78	÷	81	<b>:</b>	75	90	9	E L	Ş	

ANALYTICAL RESULTS: Semi-Volatile Organic Compounds by BIM 8270C  $_{\rm Pospe}=7$ 

Challemen, Lames & Moore
Project Description: K. Park Project Title: 05644 088
Northern Lake Service Project Number: 49903

Fyrene	Phenol	Phenanthrene	Naphthalene	3 & 4 · Methyphenol	2 Methylphenol	2 Methylnaphthalene	Indeno(1,2,3 cd)pyrene	Fluorene	Fluoranthene	2.4-Dimethylphenol	Dibenzo (a, h) anthracene	Di-n-butylphthalate	Chrysene	Butylbenzylphthalate	Benzo (k) fluoranthene	Benzo (g.h. i) perylene	Benzo [b] fluoranthene	Benzo (a) pyrene	Benzo (a) anthracene	Anthracene	Acenaphthylene	Acenaphthene	Name	Analyte	
250	8	480	3000	8	NO	1500	ND	190	200	ND .	ND	ND	180	CN	160	ND	180	180	ND	240	140	340	1754	210751 TW-11 NET	
20	20	20	166	20	20	100	20	20	20	20	20	20	20	20	20	20	20	20	20	Č	3 8	3 8	I ME I UN	DILUTION	
26	15	: =	150		26	-	<b>.</b>	22	13	62	=		=	21	26	23	: :	24	: 5		? :	;	315	50	
86	51		. 0	5 5			•	: 2		210	:	110		70	· œ	è	: :	: <u>a</u>	: :	: 3	3 4	5 (		50	

# ANALYTICAL RESULTS: Semi-Volatile Organic Compounds by EPA 8270C Page: 8

Customer: Dames & Moore Project Description: K. Park Project Title: 05644-088 Northern Lake Service Project Number: 49903

3 4 4 Methyphenol Naphthalene Phenanthrene Phenol Pyrene	Indene   1, 2, 3 - cd   pyrene 2-Methyl naphthalene 2-Methyl phenol	Dibenzo(a,h) anthracene 2,4-Dimethylphenol Fluorene	Henrac   k  f luoranthene Hutylbenzylphthalace Chrysene Di-n-butylphthalace	Benzo (a) anthracene Benzo (a) pyrene Benzo (b) f luoranthene Benzo (b) f luoranthene	Analyte  Mome Acenaphthene Acenaphthylene
2700 2700 2200 ND 780	ND 3900 ND	ND 600 770	ND 3 00	ND 240 210 350	210752 TW 11 NET DUP 119/L 2200 220 710
200 200 20 20	200 200 20	20 20	20 20 20	20 20 20	PACTOR 200 20
310 130 15 26	290 290 30	62 13 22	21 14 14	28 J 24 S	1600 19 <u>/L</u> 270 24
1000 410 51 86	960 87 100	210 43 73	70 43 110	81 28 88	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

# ANALYTICAL RESULTS: Semi-Volatile Organic Compounds by EPA 8270C Page: 9

Customer: Dames & Moore Project Description: K. Park Project Title: 05644-088 Northern Lake Service Project Number: 49903

NOT COMPAN COST CONTRACTOR			
	210753 TW-12 NET	DILUTION	TOD
Analyte	71.	FACTOR	ug/L
Name	i li	1.03	-
Acenaphthene		1.03	
ile.		1.03	- 2
		1.03	0.78
THE ACCION.		1.03	 
Benzolalpyrem		-03	0.66
		1.03	1.2
Benzolg, h, il perylene		1.03	- 4
		1.03	1.1
butylbenzylphthalate		1.03	0.70
	<b>S</b>	1.03	1.7
		1.03	0.71
cene		1.03	3.2
2,4 Dimethylphenol	ON	1.03	0.69
hene		1.03	1.1
		1.03	0.71
Indeno(1, 2, 3 -cd) pyrene	3	1.03	1.5
2 - Methylnaphthalene	8	1.03	1.3
2 Methylphenol	NO I	1.03	1.5
3 & 4 Mechypnenor	120	1.03	1.6
Nuphthalene	ND .	1.03	0.67
Phenanthrene	J. 6	1.03	0.78
Phenol		1.03	1.3
Pyrene  Perovery on 2 Fluorophenol = 61.2 1			
Surrogate Recovery on Phenol.d5 = 44.8 %			
Surrogate Recovery on Nitrobenzene-d5 = 72.4 %			
Surrogate Recovery on 2-Fluorobiphenyl - 72.5			
Surrogate Recovery on 2,4,6-Tribromophenor # 73.4			
Surrogate Recovery on Terphenyl-dia = 72.1 *			

NO. 39316



## NORTHERN LAKE SERVICE, INC.

Analytical Laboratory and Environmental Services

## SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

400 North Lake Avenue • Crandon, WI 54520-1298

Wisconsen Lab Cert. No. 721926450 Tel: (715) 478-2777 • Fax: (715) 478-3060 FID DNR LICENSE RETURN THIS FORM WITH SAMPLES PROJECT TITLE CLIENT P.O. NO. ADDRESS PHONE CONTACT ZIP STATE CONTAINER PRESERVATIVE **COLLECTION REMARKS** SAMPLE TYPE GRAB. COMP DNA Oi 1 HIGHTPAINDAL ITEM NO. SAMPLE ID DATE 1. 2. 3. 4. 5. 6. 7. 8. A. F. 14 9. 10. 11. 12. PRESERVATIVES & PREPARATION CONTAINER OH = sodium hydroxide SAMPLE TYPE: NP = nothing added P = plastic PROD=product DW=drinking water HA = hydrochloric & SW-surface water S - suffuric acid G = glass SOIL=soil TIS=tissue ascorbic acid WW=wastewater N = nitric acid V = class vial SED-sediment AIR-air H = hydrochloric acid GW=groundwater Z = zinc acetate B = plastic bag describe others describe others CUSTODY SEAL NO. (IF ANY) DATE/TIME COLLECTED BY (signatures DATE/TIME RECEIVED-8Y (signature) RELINQUISHED BY (signature DATE/TIME RECEIVED BY (signature) RELINQUISHED BY (signature) DATE/TIME METHOD OF TRANSPORT DISPATCHED BY (signature) 10:05 CONDITION .::: All The state and the second 8131199 REMARKS & OTHER INFORMATION SEAL # SEAL SEAL INTACT □ NO ... YES

1. TO MEET REGULATORY REQUIREMENTS, THIS FORM MUST BE COMPLETED IN DETAIL AND INCLUDED IN THE SHIPPER CONTAINING THE SAMPLES DESCRIBE 2. PLEASE USE ONE LINE PER SAMPLE. NOT PER BOTTLE.

3. RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.

NO. 39314



## NORTHERN LAKE SERVICE, INC.

Analytical Laboratory and Environmental Services

## SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

72.		400 North Lake A -Tel: (715) 478-27	venue 77 • Fa	<ul> <li>Crando</li> <li>x: (715) 4</li> </ul>	n, WI 54520 178-3060	-1298					w.	isconsin Lab	Cert So. 72	1020400
		· · · · · · · · · · · · · · · · · · ·				DNR LICEN	ISE				FID			
CLIENT	N THIS FORM WITH	1 Mcels				PROJECT	TITLE Y	(1)	<					
ADDP		1 (1	<u> </u>	Su i	,201	PROJECT	NO. 44	<i>- C</i>	185	5	P.O. NC			
CITY	SCA		STATI	5	37/1	CONTACT	Tres				PHONE	.27	3, 2	886
ITEM	NLS LAB. NO	SAMPLE ID	DNA	DATE	ECTION TIME	SAMPLE TYPE	GRAB/ COMP.	CON	TAINERP	RESERV	ATIVE	COLL	ECTION RE	MARKS
NO.	2105367/1	1- J. Not		Chris	1/130	62	9	1	/	/		, ,		
2.	210537- 17/	, 2A Lut		1	1500							•	· · · · · · · · · · · · · · · · · · ·	
3.	210539	- 23 Ne		1,	1445				1	1	<u> </u>			
4.	20057			Y							<u> </u>			
5.	10 pm									·_				
6.	-776								<u> </u>			ļ		
7.	- CNSE					i. i								
8.							<u> </u>		4_	<u> </u>		ļ		
9.							ļ		ļ		<del> </del>			
10.	-								_	1	ļ	<u> </u>		
11.		•								<u> </u>	ļ	<u> </u>		
12.				<u></u>		<u> </u>		ONTAINE		DD	ESERV	ATIVES	PREPARAT	ION
SAM	PLE TYPE:  SW-surface wate  WW-wastewater  GW-groundwate	TIS=tissue	water	SOIL	)=product =soil :sediment		P G V B	= plastic = glass = glass vi = plastic l describe d	al bag	NP S = N =		ng added : acid cid	OH = sodiu HA = hydro sscor H = hydroc	im hydroxide ochloric & toic acid
COL	ECTED BY (signature	· //_ /-						~~ / •	DY SEA	NO. (J	FANY)	DATE/TIM	15.	27
RELI	NOUISHED BY (signe	tores /		RE	CEIVED BY (sig	natura)			-/1-	1	7	DATE/TIM	1E/2 -	2>
	ساسف کرمروز NQUISHED BY (signa	10gal		RE	CEIVED BY (Sig	nature)	-	<u>_</u>	<u> </u>	<u> </u>		DATE/TII		<u>. ب</u>
<u>.</u>					THOD OF TRA	NSPORT			/			DATE/TH	ME	14/57
DISP	ATCHED BY (signatur	(9)		MI								•	*	- 7 - 7 -
REC	EIVED AT NLS BY	meture)	AKOKI S	DAT	ETIME SYSTEM	10:0	C	ONDITIO	W : :-	بېدىن. پ	1		JE!	EMP <sub>2</sub>
SEA	L INTACT	SEAL O SELLO	نمغضاهم	19		,		·						

1. TO MEET REGULATORY REQUIREMENTS, THIS FORM MUST BE COMPLETED IN DETAIL AND INCLUDED IN THE SHIPPER CONTAINING THE SAMPLES DESCRIBED

<sup>2.</sup> PLEASE USE ONE LINE PER SAMPLE, NOT PER BOTTLE.

<sup>3.</sup> RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.

## APPENDIX C

LABORATORY REPORTS FOR THE B-35, B-36/MW-16, AND B-37 BORINGS

## WIS. LAB CERT. NO. 721026460

PAGE: 1

NLS PROJECT# 49883

## **ANALYTICAL REPORT**

Client:

Dames & Moore

	Collected: 08/24/99 Received: 08/26/99 Reported: 09/20/99
The personal	Sample ID: Soil, B-35 8-10' NLS#: 210427  Ref. Line 1 of COC 39296 Description: Soil, B-35 8-10'
SEP 2 9 1999	Project Description: NSP-Ashland Project Title: 05644-088
	Madison, WI 53711
フロの見言可引	25 Kessel Court
NLS CUST# 8098	Attn: Dave Trainor

Project Description: NSP-Ashland Project Title: 05644-088					N SEP 2 9 1999	9 1998 1998	
Sample ID: Soil, B-35 8-10' Ref. Line 1 of COC 39296 Description: Soil, B-35 8-10' Collected: 08/24/99 Received: 08/26/99 Reported: 09/20/99	210 <b>4</b> 27 )/99				اللتهجيناتك	ئامىكى	1 5
Parameter	Result	Units	TOD	001	Method	Analyzed	Lab
	< 2.1 >	mg/Kg DWB	1.6	5 G	0901 948MS	. 66/01/60	721026460
-	23		0.58	2.0			721026460
·	=		0.31	-			721026460
⊆	ND.		0.045	0.15			721026460
L OC.	22000	mg/Kg DWB	<b>3</b> 5	120	SW846 6010	09/17/99	721026460
עם	< 7.2 >		3.9	14	SW846 6010	09/02/99	721026460
Nickel, tot. as Ni	19		0.77	2.7	SW846 6010	09/12/99	721026460
Solids, total on solids	61.7	de	0.10		ASTM D2216	08/30/99	721026460
	43	mg/Kg DWB	0.58	0.58	SW846 6010	09/10/99	721026460
Mctais digestion - total (soil/sludge) ICP					SW846 3050	08/30/99	721026460
Wive (wile) he pay 2021					SW846 3050	09/01/99	721026460
coming at ile 127/MC by 93700 (coil)	מיניסטונים				SW846 8021	09/03/99	721026460
SCHIANTACITE ON LES DA 05/00 (2011)	per accacined		•		SW846 8270C	09/03/99	721026460
	control, spil	control, spike and duplicate was low.	ow.	overy tor t	ne		
Ultrasonic Extraction by 3550B	yes				SW846 3550B	08/27/99 721026460	121026460

## ANALYTICAL REPORT

PAGE:

N

STR

PROJECT# 49883

NLS CUST#

8608

Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711

Client:

Iron, tot. as Pe
Lead, tot. as Pb
Nickel, tot. as Ni
Solids, total on solids
Zinc, tot. as Zn
Metals digestion - total (soil/sludg)
Wocs (soils) by EPA 8021
Semivolatile GC/MS by 8270C (soil) Ultrasonic Extraction by 3550B Arsenic, tot Chromium, tot Copper, tot. as Cu Cyanide, tot. (dist Parameter Sample ID: Soil, B-36 3-5' NLS#: 210428 Ref. Line 2 of COC 39296 Description: Soil, B-36 3-5' Collected: 08/23/99 Received: 08/26/99 Reported: 09/20/99 Project Project Description: NSP-Ashland Title: 05644-088 as As by furnace AAS as Cr (distilled) (soil/sludge) (soil/sludge) on solids furnace 31000 : 10 > 24 | 77.9 49 Yes Yes Additional Comments: 2,4-dimethylphenol recovery for the control, spike and duplicate was low. see attached see attached B mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg DWB DWB DWB DWB 1.2 0.65 0.35 0.035 40 4.4 4.4 0.86 0.86 0.65 4.2 2.3 1.3 0.12 140 16 16 3.1 SW846 6010 SW846 6010 SW846 9010 SW846 6010 SW846 6010 SW846 6010 SW846 6010 SW846 6010 SW846 3050 SW846 3050 SW846 8021 SW846 8021 SW846 3550B 09/10/99 09/17/99 09/17/99 09/02/99 09/12/99 08/30/99 09/10/99 08/30/99 08/30/99 09/03/99 08/27/99 721026460 09/15/99 09/10/99 Analyzed 721026460 721026460 721026460 721026460 721026460 721026460 721026460 721026460 721026460 721026460 721026460 721026460

## Analytical Laboratory and Environmental Services 400 North Lake Avenue - Crandon, WI 54520 Tel:(715)478-2777 Fax:(715)478-3060 NORTHERN LAKE SERVICE, INC.

Client:

Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711

## ANALYTICAL REPORT

NLS CUST# NLS PROJECT# 49883 8098

Iron, tot. as Fc
Lead, tot. as Ni
Nickel, tot. as Ni
Solids, total on solids
Zinc, tot. as Zn
Metals digestion - total (soil/sludge) IC
Metals digestion - total (soil/sludge) IC
Motals digestion - total (soil/sludge) fu
VOCs (soils) by EPA 8021
Semivolatile GC/MS by 8270C (soil) Arsenic, tot. as As by furnace AAS Chromium, tot. as Cr Copper, tot. as Cu Cyanide, tot. (distilled) on solid Ultrasonic Extraction by 3550B Parameter Sample ID: Soil, B-37 NLS#: 210429
Ref. Line 3 of COC 39296 Description: Soil, B-37
Collected: 08/23/99 Received: 08/26/99 Reported: 09/20 Project Description: NSP-Ashland Project Title: 05644-088 on solids Reported: 09/20/99 ICP furnace 10-12 16
13
10
ND
ND
13000
13000
25
25
Yes
Yes
Yes
See attached
see attached Additional Comments: 2,4-dimethylphenol recovery for the control, spike and duplicate was low. mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg Units mg/Kg DWB DWB DWB DWB DWB 0.90 0.37 0.20 0.028 23 2.5 0.49 0.10 န္ 3.1 1.3 0.71 0.096 80 8.9 1.8 001 SW846 7060 SW846 6010 SW846 6010 SW846 6010 SW846 6010 SW846 6010 ASTM D2216 SW846 6010 SW846 3050 SW846 8021 SW846 8021 SW846 3550B 0 09/10/99 0 09/15/99 0 09/10/99 0 09/08/99 0 09/17/99 0 09/17/99 0 09/12/99 0 08/30/99 0 08/30/99 0 08/30/99 0 08/30/99 0 08/30/99 08/27/99 721026460 Analyzed 721026460 721026460 721026460 721026460 721026460 721026460 721026460 721026460 721026460 721026460 721026460 721026460

WIS. LAB CERT. NO. 721026460

**ANALYTICAL REPORT** 

PAGE: NLS PROJECT# 49883 NLS CUST#

8608

Client:

Dames & Moore Attn: Dave Trainor 25 Kessel Court Suite 201 Madison, WI 53711

Project Description: NSP-Ashland Project Title: 05644-088

Sample ID: MeOH Blank NLS#: 210430 Ref. Line 4 of COC 39296 Description: MeOH Blank Collected: 08/23/99 Received: 08/26/99 Reported: 09/20 Reported: 09/20/99

VOCs (soils) by EPA 8021

Parameter

LOD = Limit of Detection DWB = Dry Weight Basis

Result

Values in brackets represent results greater than the LOD but less than the LOQ and are within Results greater than the LOQ are considered to be in the region of "Certain Quantitation".

LOQ = Limit of Quantitation NA = Not Applicable

see attached

Units

200

200

Method

Analyzed Lab

SW846 8021 09/03/99 721026460

region of "Less-Certain Quantitation".

g

ND = Not Detected %DWB = (mg/kg DWB)/10000

Reviewed by:

Authorized by: R. T. Krueger Laboratory Manager

AMALETICAL RESHETS: Voc's by EPA 8260 - Methanol - (Saturn 2000)
Page: 1

Page: 1 Chat omer: Damen & Moore Project Description: REP Anthand - Project Title: 05644 dBH Northern Lake Service Project Number: 49883

Northern Lake Service Project Number: 49883			
	210427 Spil, B-35 8-10'	NOTTULION	S S
Analyce	ug/kg	FACTOR	Pay Jen
Name	N)	_	11
Benzene	<b>2</b> 5	_	11
n-Butylbenzene		-	11
sec-Butylbenzene	<b>8</b>	_	12
Isopropylbenzene	<u>s</u>	_	11
p-Isopropy)toluene		-	13
Naphthalenc	No.		11
n-Propylbenzene	ND :	-	25
ortho-Xylene	ND :	-	17
Toluene	NC	-	¥
1,2,4-Trimethylochizene	N	-	10
1,3,5 Trimethylbenzene	ND	_	25
meta, para-xyrene en Dibromofluoromethane = 93.0 %	3.0 %		
Surrogate Recovery on Toluene d8 = 103 *			
Surrogate Recovery on 1-Bromo-4-Fluorobenzene # 106 \$	- 106 <b>*</b>		

1.00 1.00

ANALYTICAL RESULTS: VOC'S by EIVA 8260 Methanol (Saturn 2000)
Page: 2

Customer: Dames & Moore
Project Description: NSP-Asiland Project Title: 05644-088

ice Project Number: 49883  210428 Soil, B-36 3-5'  109/kg  ND  ND  ND  ND  ND  ND  ND  ND  ND  N		210428 Soil, B-36 3-5'  199/kg  ND  ND  ND  ND  ND  ND  ND  ND  ND  N		1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	Toluene	ortho-Xylene	n-Propylbenzenc	Naphthalene	p-Isopropyltoluene	Isopropylbenzene	sec-Butylbenzene	n-Butylbenzene	Benzene	Name	Analyte	Not thern Lake Servi
210428 Soil, B-36 3-5'  109/kg  ND  ND  ND  ND  ND  ND  ND  ND  ND  N	210428 Soil, B-36 3-5'  109/89  ND  ND  ND  ND  ND  ND  ND  ND  ND  N	210428 Soil, B-36 3-5' DILUTION  109/kg	Surrogate Recovery on Dibromofluoromethane = 93.0 %	zene	zene												Northern Lake Service Project Number: 49883
	PACTOR  I  I  I  I  I  I  I  I  I  I  I  I  I	1 🛋	93.0 %	ND	<u>z</u> 8	<b>5</b> (	<b>S</b>	ND :		. 17 >		S	ND .		NO	210428 Soil, B-36 3-5'	

ABALATTICAL RESULTS: VOC's by EFA 8260 Methanol (Saturn 2000)
Page: J

Customer: Dames & Moore Project Description: NSP-Ashland Project Title: 05644-088 Northern Lake Service Project Number: 49883

meta, pata Ayerie Surrogate Recovery on Dibromofluoromethane = 89.0 % Surrogate Recovery on Toluene-d8 = 106 % Surrogate Recovery on 1-Bromo-4-Fluorobenzene = 116 %	1,3,5-Trimethylpenzele	1,2,4 Trimethylbenzene		ylenc	n-PropyIbenzene ND	Naphtha Iene	p-Isopropy/foluene			n-Butylbenzene Ni			Le va/ka	210429 Soil, B-37	MOLCHBELL PRIME SELATED TEACHERS TO THE SELECTION OF THE
	_	1	_	_	_	-	_	_	_	_	_	_	FACTOR	DILUTION	
	25	10	1.	17	25	11	13	11	12	Ξ	11 .	11	ug/kg	1001	
	96	33	16	<b>5</b> 7	79	96	4	39	<u></u>	36	36	35	ug/kg	100	

ANALYTICAL RESHITS: VOC'S by EPA 8260 Methanol (Saturn 2000)
Page: 4

Customer: Dames & Moore
Project Description: NSP-Ashland Project Title: 05644-088

meta.pura Xylene Surrogate Recovery on Dibromofluoromethane = 97.0 % Surrogate Recovery on Toluene-d8 = 101 % Surrogate Recovery on 1-Bromo-4-Fluorobenzene = 98.0 %	1, 3, 5. Trimethylbouzene	1,2,4-Trimethylbenzene	Toluene	ortho-Xylene	n-Propylbenzene	Naphthalene	p-Isopropyltoluene	Isopropylbenzene	men - that y the macune	n Butylbenzeue	Benzene	Name	Analyte	Northern Lake Service Project Number: 49883
ne = 97.0 % nzene = 98.0 %	S &	S (	ND :	ND :	ND :	ND .	ND	ND	NE :	Z.	<u>.</u>	3	210430 MeOH Blank ug/kg	
	_	_	_	_	_	,_	-	_	-	_	_	_	FACTOR	
	25	10	<b>:</b>	17	25	11	13	=	12	=	=	11	<u>ug/kg</u>	;
	96	11	46	57	79	36	<b>.</b>	39	<b>:</b> =	16	ē		64/64 64/64	3

# ANALYTICAL RESULTS: Semi Volatile Organic Compounds by EPA 8270C Page: 1

Customer: Dames & Moore Project Title: 05644-088

Proje	Project Description: Mar Advance: 49883			
201		210427 Soil, B-35 8-10'	DILUTION	5 5
Analyte	te .	ug/Kg	FACTOR	100 Ex / Fo
Name		N	_	? •
Acena	Acenaphthene	ND T		2 %
Acena	Acenaphthylene	ND	-	3
Anthr	Anthracene	NU	_	
Benzo	Benzo(a) anthracene	NJ :	_	100
Benzo	Benzo(a)pyrene	UN :	-	120
Benzo	Benzo[b] (1 uoranthene	S :	_	110
la-1120	henzo(n, h, i) perylene		_	92
Benzo	Benzo (k) fluoranthene		1	120
Buty	Butylbenzylphthalate	ND	-	100
Chrysene	sene	NU	_	
ם יום	Di n butylphthalate			3
Diber	Dibenzo (a, h) anthracene	NO	-	6
2,4-1	2,4-Dimethylphenol	N		. 4
£1uo:	Fluoranthene	NJ CA		
Fluorene	rene	ND	-	
Inde	Indeno[1,2,3-cd]pyrene	ND	-	100
2 · Mc	2 Methylnaphthalene	¥	٠,	9
2 Me	2 Methylphenol	NC		120
3.1	3.4.4.Methyphenol	ND		110
Naph	Naphthalene	ND		т Л (
Phen	Phenanthrene	ND	·  -	50
Phenol	lo1	£	-	100
Pyrene	Pyrene Pyrene Pyrene Pyrene Pyrene Pyrene Pyrene Pyrene Pyrene Pyrene Pyrene Pyrene Pyrene			
Surr	Surrogate Recovery on Phenol-d5 = 82.0 %			
Surr	Surrogate Recovery on Nitropenzene do - 76.7 %			
Suri	Surrogate Recovery on 2-Fidoromphenol = 66.6	6 7		
Suri	Surrogate Recovery on Terphenyl d14 = 91.3 1			
Suri	Codate Recovery and aller			

-		-	-	-	_	_	-	<b></b>	٠ ب	-	<b>,</b>	-	<b>,</b>	-	-	_	_	-	_	-		FACTOR	
œ,	110	120	100	85	100	95	140	99	69	95	120	100	120	92	110	120	100	310	96	92	100	ug/Kg	1
280	160	410	340	280	340	320	460	330	230	320	400	340	410	310	180	410	330	380	320	310	066	ug/Kg	

# ANALYTICAL RESULTS: Semi Volatile Organic Compounds by EPA 8270C Page: 2

Northern Lake Service Project Number: 49883	210428 Soil, B-36 3-5"	DILUTION
	210428 Soil. B-36 3-3	FACTOR
	100 100 100 100 100 100 100 100 100 100	. 96
acenaphthene	ND :	. 96
ייין פויס	5 1	. 96
Acenaphthyretic		. 96
Anthracene	ND	96
Benzo (a) anthracene	ND	
Benzo[a] pyrene	ND	. 9
Benzo(b) (luoranthene	ND	
Benzo(g,h,i)perylene	GN	
Benzo (k) fluoranthene	ND	. 46
Butylbenzylphthalate	ND	. ye
Chrysene	N	, ,
Di-n-butylphthalace	ND	2
Dibenzo[a, h] anthracene	ND	£ ?
2,4-Dimethylphenol	ND NO	. 96
Fluoranthene	ND	96
Fluorene	***	. 96
Indeno(), 2, 3 collegions	i 8	. 96
2 Methylnaphenarene	€	96
2 Methylphenol	ND	96
3 & 4-Methyphenol	ND	. 96
Naphthalenc	ND	9 6
phenanthrene	ND	2
	ND	
on 2-Fluorophenol = on phenol-d5 = 73.0 on phe		
Surrogate Recovery on Allicommission 67.7 % Surrogate Recovery on 2.4,6-Tribromophenol 67.7 % Surrogate Recovery on 2.4,6-Tribromophenol 67.7 %	7.7 % = 62.0 %	
Surrogate Recovery on Nitrobenzene-d5 = 69.5 % Surrogate Recovery on 2pluorobiphenyl = 67.7 % Surrogate Recovery on 2.4Tribromophenol = 62.0 % Surrogate Recovery on 2.4Cribromophenol = 62.0 %	.5 % 7.7 % = 62.0 %	

# ANALYTICAL RESHITS: Semi Volatile Organic Compounds by RPA 8270C Page: 3

Customer: Dames & Moore Project Description: NSP Abhland Project Title: 05644-088

Surrogate Recovery on 2-Fluorophenol = 69.7 % Surrogate Recovery on Phenol -d5 = 69.2 % Surrogate Recovery on Nitrobenzenor -d5 = 68.0 % Surrogate Recovery on 2-Fluorobiphenyl = 70.6 % Surrogate Recovery on 2,4,6-Tribromophenol = 63.0 % Surrogate Recovery on 7,4,6-Tribromophenol = 63.0 % Surrogate Recovery on Torphenyl d14 = 91.1 %	Dyralla	Phono	Napricia refe	J. A. Mechyphenox	2 Metily I phenor	2 Methylnaphtharene	Indeno[1, 2, 3 culpyrene	FINOTORIC	Fluoranthelie	2,4-Dimetry i prenor	Dibenzo (a, n) anchi acene	D1-n-bucylphenatace	Chrysene	Butylbenzylphthalace	Benzo [k] fluoranthene	Benzolg, h, 11perytene	Benzo (b) I tuor ant bette	Benzolalpyrene	Benzo (a) anthracene	Anthracene	Acenaphthylene	Acenaphruene	Name	Analyte		Northern Lake Service Project Number: 49883	named Project Title: 05644-088
•	ND	ND	ND	N	ND	ND :	ND	No.	N.	No.	No.	<b>3</b>			<u> </u>	S :	<u> </u>	<u>z</u> ;	25		ND :	<b>X</b>	D	uq/Kq	210429 Soil, B-37		. C. C. C. C. C. C. C. C. C. C. C. C. C.
	_	_	<b>-</b> -		_	_	-	-	-	-	_	_	<b>,</b>		-	<b>,</b>	<b>.</b>	_	_	_	-		-	FACTOR	NOITUION		
	100	85	110	120	100	85	100	95	140	99	69	95	120	100	120	92	110	120	100	110	96	92	100	ug/Kg	<b>Q</b> 0		
	540	280	360	410	340	280	340	320	160	330	230	320	400	340	410	310	380	410	310	380	320	310	330	ug/Kg	500		

NO. 39296



## NORTHERN LAKE SERVICE, INC.

## SAMPLE COLLECTION AND

Analytical Laboratory and Environmental Services CHAIN OF CUSTODY RECORD 400 North Lake Avenue • Crandon, WI 54520-1298 Wisconsin Lah Cert No. 721026400

<b>(0,000</b>	Tel: (7	15) 478-277	7 • Fa	x: (715) 4	178-3060	DNR LICEN	SE			F	ID		
TURN THIS FORM						PROJECT 1	- Ashle	and			P.O. NO		
		Sole 3	:01			PROJECT I	40. (- CASA				PHONE		
TY Jan Sur.			STAT		ZIP 537:1	CONTACT Duve	Trainer			į.	2081	273-	28 <b>84</b>
EM NIS	SAMPL	E ID	DNR ID	DATE	TIME	SAMPLE TYPE	GRAB/ COMP.	CONT	UNER/P	<u> </u>	ATIVE CV	COLL	ECTION REMARKS
1. 74.133	B 35 E	3-101		8124	900AH	SUIL	6813	2	1	7		<u>·</u>	·
2. H. 176	B-36 3	2-5		9123	4074	SOIL	6213	2	1	2	-		
3 HALTER	10.21	10-12-)		5/23.	120074	401 L	Cling	2	<del>                                     </del>	1			
4. 1171	4.04 Bb.	. K					<del> </del>	T					
5.	<i>a</i>		-										
6	·		<del>                                     </del>									<u> </u>	
7. 8			-							<u> </u>	-	<u> </u>	<u> </u>
9.								<del> </del>	-	<del> </del>	-		
10.						ļ	<del></del>	╁	┼	+	+		
11. 30 45	<u> </u>		<u> </u>	<u> </u>		<del> </del>	<del>                                     </del>	┼-	+-	╁	-	<del>  .</del>	
WW=w	rrace water astewater oundwater	DW=drinking TIS=tissue AIR=air	water	SOI	DD=product L=soil D=sediment		P = G = V = B =	NTAINE plastic glass glass vi plastic t	al pag	Ni S N	RESERV P = nothi = sulfurid = nitric 8 = zinc ac	ng added c acid ccid	PREPARATION OH = sodium hydroxide HA = hydrochloric & ascorbic acid H = hydrochloric acid
descri	be others							custo		L NO.	(IF ANY)	DATE/T	ME
COLLECTED BY	(signatures)	1.6										DATE/T	
RELINQUISHED	BY (signature)			F	RECEIVED BY (	ignature!				<u> </u>			
RELINQUISHED	BY (signature)				RECEIVED BY (	ignature)			٠.			DATE/T	
DISPATCHED B	Y (signature)				METHOD OF TR	ANSPORT						DATE/T	IME
RECEIVED AT N	ILS BY (alignature)	ALL ALL ALL ALL ALL ALL ALL ALL ALL ALL	11000	account RI	ATE/TIME	1	10 4	ONDITIC	ON ser				TEMP
☐ YES		· · · · ·							<del>-</del> . ·	F 6/ 1161	DED 00:	ITAINING '	THE SAMPLES DESCRIBE

1. TO MEET REGULATORY REQUIREMENTS. THIS FORM MUST BE COMPLETED IN DETAIL AND INCLUDED IN THE SHIPPER CONTAINING THE SAMPLES DESCRIBED.

2. PLEASE USE ONE LINE PER SAMPLE, NOT PER BOTTLE.

<sup>3.</sup> RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.



## NORTHERN LAKE SERVICE, INC.

Analytical Laboratory and Environmental Services

но. 39296

## SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

400 North Lake Avenue • Crandon, WI 54520-1298 Tel: (715) 478-2777 • Fax: (715) 478-3060

Wisconsin Lab Cert. No. 721026460

	) el. ()	15) 470-27	,, -, ,	un. (1 10)	., 0 0000	DNR LICEN	ISE				FIC		
ETURN THIS FORM	WITH SAMPLES.												
LIENT	. ,					PROJECT							
Secret	· mie					PROJECT	- /15	nland			P.O. NO	)	
DDRESS	Gord	5.4.5	10			556 44		3		İ			1
5 40870			STAT	F	ZIP	CONTACT	<u>,                                    </u>		-		PHONE		
") Most son,	WI			<u> </u>	37"	Dur		<u> </u>			~\91	<u> 273-</u>	- 25 <b>84</b>
TEM NESS	SAMPLE	ID OIL	DNR	DATE	TIME	SAMPLE TYPE	GRAB COMP	CONT	AINER/P	RESERV	/ATIVE	COL	LECTION REMARKS
frames and the same	B-35 B	-10′		9124	900AH	SUIL	581 B	2	ı	2_			
MANAGER ST. ST. ST.	5.36 3	.5		3/23	42274	ے ′ھ≳	62 3	2	1	Z			
		1-12-)		3/23	172071	SOIL	5803	2	1	7			
- 3	1.01 Bleat	<del></del>		•									
5.	10 - 70-									,			
6.													
7.													,
8.				-									
9.			<u> </u>										
10.													
11.			$\vdash$										
12.			<del>                                     </del>										
SAMPLE TYPE:		<del></del>		<u> </u>				ONTAINER	1	PRI	ESE= v4	TIVES &	PREPARATION
SW=surfac		DW-drinking	water	PROD SOIL:	)=product			= plastic = glass			= notnin sulfuno		OH = sodium hydroxide HA = hydrochloric &
WW=waste GW=groun		TIS=tissue AIR=air			sediment		v	= glass via		N =	nithe ac	id	ascorbic acid  H = hydrochloric acid
describe o	others						В	= plastic bi describe of	-		zinc ace	nate	i held tweed
OLLECTED BY (sign	natures)	_ <del></del>					<del></del>	CUSTOD	Y SEAL	NO. (II	FANY	DATE/TI	ME
ELINQUISHED BY	Matures)	<i>s</i>		De	CEIVED BY (sig	nature)						DATE/TI	ME
ELINQUISHED BY (	isignature)			ne.	UPS	210-7/				<i>.</i>			
ELINOUISHED BY	signature)			RE	CEIVED BY (sig	nature)				-		DATE/TI	ME
SPATCHED BY (sig	gnature)			ME	THOD OF TRAI	NSPORT						DATE/TI	ME
				,, -p	~~~	ye general		CONDITION	No.	. السورات	****	di nerita	TEMPERATURE
ECEIVED AT NLS	(Common)		i i	- 51E		ار اور از کو ایند داد							
SEAL INTACT				REM	ARKS & OTHER	INFORMATI	ON			_			,
YES DE L	VALUE AND ADDRESS OF THE PARTY	سروش فالما	<u> </u>	42 (A)								<del></del> ,	
	-												

PORTANT: 1. TO MEET REGULATORY REQUIREMENTS, THIS FORM MUST BE COMPLETED IN DETAIL AND INCLUDED IN THE SHIPPER CONTAINING THE SAMPLES DESCRIBED.

2. PLEASE USE ONE LINE PER SAMPLE, NOT PER BOTTLE.

<sup>3.</sup> RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.

### NORTHERN LAKE SERVICE, INC.

400 NORTH LAKE AVENUE

CRANDON, WI 54520 (715) 478-2777 FAX: (715) 478-3060

SEND RESULTS TO:	· · · · · · · · · · · · · · · · · · ·	CHAIN OF CUSTODY REC	ORD NUMBER:
Dovid P. Trais	200	39 296	
Damas & Moore		QUOTATION NUMBER:	
25 Kessel Con	irt, Suite 201		
11 1		ANALYZE FOR DISSOLVE	DIGRITOTAL PARAMETERS?
Modison, WI	59711		
COPIES TO:		SEND INVOICE TO:	
50me		same	• .
عا الكل		Savne	
· •		•	
i 		•	
Note "TL" for trace-level	ICP analysis, and "F" for furn	ace analysis.	
Samples on Chain of Co	ustody line #s:	to be analyzed	for the parameters oneoked belo
•			
Acidity	Filres	T Sedium	= Base/Neutral Extractables c
Aikalinity, total	I Iron Bacteria	Sciics, total	525/B270
Alkalinity, bicaro.	Lead	Sciids, total dissolved	ENAs by 625.8270
Aluminum	Cithium Cith	Sciids, total suspended	PAHs by 610LO/8310
☐ Antimony	Magnesium	≣ Spiles, tota! voiatile	Chierinated Hydrocardens c
Arsenio	Manganese	= Suifate	812/8121
_ Barrum	Mercury	E Suifice	Pesticides - Organicalicale
☐ Beryllium	Mercury, low level	Surfactants (MBAS)	508/8081
EOD - 5 Day	Molybosnum	Theilium	Pesticides - Organophosons
EDD, carponaceous	Nicke!	_ T.a	by 8141
= Boron	Nitrogen, ∴mmonia	_ Titanium	POBs by 608/8082
Eromice	⊡ Nitrogen, Total	<u> </u>	Thencis by GC 604,8040
Cacmium	Nitrate	<u></u>	Fhenoxy Acid Heroloices cy
☐ Calcium	Nitrite		8:51
⊒ cop	Nitrate - Nitrite	= Zinc	TCLP - metals
Chloride Chromium	Total Kjeldani Nitrogen	Munic, Studge Wi List	TCLP - pesticides heroloides
Chromium, hex.	Total Organic Nitrogen	VCCs by 8021	TOLP - VCCs
Cobeit	Oil & Grease, freon	VCCs by 624/8260 VCCs by 8010/8020	SPLP - metats
Coliform, fecal	inchi a Giesse. Liexeile	VCCs by 524.2 (SDWA)	SPLP -
	= Phenois	= 7003 by 024.2 (804.4)	= ASTM - metals
Caras	Phosphorus, total	= FVOCs by 8020	= ASTM -
= Canamaia,	Phesonorus, tot. onno	GRC-VI Modified	X Marks per list
_Copper	Phosphorus, cis. office	三 GRC-PVCC-WI Modified	* von er list
Z Cyanice, total	Potassium	T DRC-WI Modified	J SUOCO DEI VIT
C, anice, amenable	Selenium	Nachthalene	XCN-per 1.3+
☐ Fluorice	Silica	Acid Extractables by	
_ Hardness	Silver	525/8270	
* = This is a Aresence	. Absence test for pacteria in c	prinking water s	
		(=, = 1	(11) ma
Special Instructions:	SVOCS VOCS , and	izonganics (Rue hals of	CN / pei
Attachment A:	sent with late force	Mc ·	
1,6	•		•

05644-094



25 Kessel Court. Suite 201 Madison, Wisconsin 53711-0227 608 273 2886 Tel 608 273 3415 Fax

January 18, 2000

Mr. Jamie Dunn WDNR - Northern Regional Office 810 West Maple St. Spooner, WI 54801

RE:

Tabulated Groundwater Quality Results

November, 1999 Sampling Event NSP Ashland - Former MGP

Dear Mr. Dunn:

As promised, attached is a complete revised table of the above. Please replace the data set provided you at last Thursday's meeting with this copy.

Sincerely,

**DAMES & MOORE** 

David P. Trainor

Principal

cc:

Jim Musso

Dave Crass

dpt nsp dunn0118.ltr

## **TABLES**

NSP, ASHLAND November 1999 Groundwater Monitoring Results

			Summa	ry of Monito	Table 1 Summary of Monitor Well and Piczometer Constr	ezometer Con			ction	
Well Number	Турс	Elevation PVC (Ft. MSL)	Elev. Ground (Ft. MSL)	Total Borehole Depth (Ft.)	Screened Interval (Ft. below surface)	Depth Top of Filter Pack (Ft.)	Elev. Top of Filter Pack (Ft. MSL)	Depth Bottom of Filter Pack (Ft.)	Elev. Bottom of Filter Pack (Ft. MSL)	Midpoint Filter Pack Interval
					NSP Wells					
•1-W:I	Extraction	635.94	636.7	56.0	35-55	30.0	604.7	\$6.0	850.70	591.7
I-MW	Water Table	634.18	6,34.7	21.5	11 - 21	9.0	625.7	21.5	613.2	619.45
MW-2	Water Table	634.85	635.1	21.0	10-20	8.0	627.1	21.0	614.1	620.6
*E-MM	Water Table	637.83	638.2	16.0	5 - 15	3,0	635.2	16.0	622.2	628.7
h-ww	Water Table	641.03	641.7	15.5	5-15	4.0	637.7	15.5	626.2	631.95
VI-MW	Piezometer	641.22	641.6	35.0	21 - 26	0.64	622.6	27.0	614.6	618.6
MW-4B	Piezometer	640.98	641.5	55.5	SO - SS	48.0	593.5	55.5	586	589.75
MW-5	Water Table	633.82	634.3	28.5	18 - 28	16.0	618.3	28.5	605.8	612.05
WW-SA	Piezometer	633.72	634.2	34.0	31.5 - 33.5	30.5	603.7	34.0	600.2	601.95
MW-SI3	Piezometer	633.89	634.3	51.0	44 - 49	42.0	592.3	49.0	585.3	588.8
MW-SC	Piczometer	634.33	634.6	76.0	71 - 76	69.0	565.6	76.0	558.6	562.1
MW-6	Water Table	644.88	645.2	0.81	3 - 18	2.5	642.7	18.0	627.2	634.95
MW-6A	Piczometer	644.79	645.2	48.0	42.3 - 47.3	40.8	604.4	47.5	597.7	601.05
MW-7	Water Table	612.60	610.6	15.0	5 - 15	4.5	606.1	15.0	595.6	600.85
MW-7A*	Piczometer	613.25	610.1	35.5	30 - 35	28.0	582.1	35.5	574.6	578.35
MW-8*	Water Table	634.42	635.9	16.0	6 - 16	5.0	630.9	16.0	619.9	625.4
+V8-MM	Piezometer	634.62	635.9	50.0	45 - 50	43.0	592.9	50.0	585.9	589.4
*6-MW	Water Table	637.98	638.3	15.5	5-15	4.0	634.3	15.5	622.8	627.8
V6-MW	Piczometer	637.86	638.34	136.5	131 - 136	128.5	509.84	136.0	502.34	506.09
HW-9B	Piczometer	638.02	638.3	111.5	106 - 110	104.0	534.3	111.5	526.8	530.55
MW-10*	Water Table	638.20	638.46	21.0	5 - 20	4.0	634.46	21.0	617.46	625.96
WW-10/	Piczometer	638.07	638.31	0.15	45 - 50	44.0	594.31	50.0	588.31	591.31
MW-11+	Water Table	636.13	635.5	0.51	5-15	4.0	632.5	15.0	621.5	626.5
MW-12*	Water Table	637.09	637.5	15.0	5 - 15	4.0	633.5	15.0	622.5	627.5

			Summa	ry of Monito	Table I r Well and P	Table 1 Summary of Monitor Well and Piczometer Construction	nstruction			
Well Number	Туре	Elevation PVC (Ft. MSL)	Elev. Ground (Ft. MSL)	Total Borchole Depth (Ft.)	Screened Interval (Ft. below surface)	Depth Top of Filter Pack (Ft.)	Elev. Top of Filter Pack (Ft. MSL)	Depth Bottom of Filter Pack (Ft.)	Elev. Bottom of Filter Pack (Ft. MSL)	Midpoint Filter Pack Interval
TW-13*	Water Table	635.83	636.3	22.0	9-19	7.0	629.3	19.0	617.3	623.3
WM-13V	Piezometer	635.94	636.3	50.0	40 - 45	38.0	598.3	46.0	590.3	594.3
BEI-MW	Piczometer	635.90	636.3	70.0	65 - 70	63.0	573.3	70.0	\$66.3	\$69.8
MW-I3C	Piczometer	636.11	636.3	115.0	109.5 - 114.5	107.5	528.8	115.0	521.3	525.05
MW-14*	Water Table	639.15	639.7	17.0	5-15	4.0	635.7	17.0	622.7	629.7
MW-15*	Water Table	641.21	641.6	17.0	5 - 15	4.0	637.6	15.0	626.6	631.6
MW-16*	Water Table	642.20	642.5	19.0	6-16	5.0	637.5	17.0	625.5	631.5
MW-17*	Water Table	633.88	634.4	17.0	5-15	4.0	629.4	17.0	617.4	623.9
MW-17A*	Piezometer	633.68	634.4	56.0	50 - 55	48.0	586.4	\$6.0	578.4	582.4
				Krehe	Kreher Park Monitor Wells	or Wells				
MW-I(NET)	Water Table	608.40	605.6	16.0	4-14	3.0	602.6	16.0	589.6	596.1
MW-2 (NET)	Water Table	608.23	605.3	16.0	3.5 - 13.5	2.5	602.8	16.0	589.3	596.05
MW-2A (NET)	Piczometer	607.99	605.3	52.0	45 - 50	43.0	562.3	50.0	555.3	557.8
MW-2B (NET)	Piezometer	608.05	605.3	31.0	25-30	22.0	583.3	31.0	574.3	577.8
MW-3 (NET)	Water Table	612.10	609.5	16.0	5-15	4.0	605.5	16.0	593.5	599.5

Notes:

\* Reference elevations surveyed by Dames & Moore.
Reference elevations for wells F.W-1, MW-3, MW-9, MW-10, MW-10A, MW-11, MW-12, MW-14, and MW-15 surveyed in Sept. 1998.
Reference elevations for wells MW-8, MW-8A, MW-16, MW-17, and MW-17A surveyed in August 1999.
Reference elevations for wells MW-9B and MW-13C surveyed in November 1999.
Survey information for Kreher Park wells are from February 1995 SEH Report

	Τ.	Ţ		1	-			7	T -	<del></del>	_	T	-				_		_										
NIW-II	100	MW-10A*	MW-10*	MW-913*	MW-9A	MW-9	MW-8A*	M₩-8*	MW-//	V W IV	MW 7	MW 6A	MW-A	MW-SC	MW-SI3	MW-5A	MW-5	MW-4B	ViMW	MW-4	MW-3*	7- M W	X	MW-	1-W:1	Number	₩ <sub>2</sub>		
18.6	030.07	638 07	638.20	638.02	637.86	637.98	634.62	634.42	613.25	012.00	044./7	00.00	644 89	נו מו	633.89	633.72	633.82	640.98	641.22	641.03	637.83	634.85	31.10	61416	P6 5E9	Elev.	Top of		
-	14.50	13.50	86.5		13.92	;	15.22	9.52'	:		20.02	13.28	16.98	10.08	- X 91	19.09	19.66	16.62	13.81	5.85	2.85	14.75	10.00	10.00	16.5%	(ft.)	Depth to	September 15,	
	623.57	32.72	20 00	:	623.94	:	619.40	624.90	1	612.60	624.77	629.60	(2,4.20	90.410	614 00	614 63	614.16	624.36	627.41	635.18	634.98	620.10	619.10	019.30	610.70	Groundwater Elevations		ber 15, 1997	
9.66	14.11	2.33	, ,	.	12.88	6.47	15.40	4.68	:	7.75	19.58	15.86	7.20	19.83	10.00	0 88	20.09	15.92	14.17	6.54	2.89	14.98	13.37	16.90		(ft.)	ş	October 6,	
626.47	623.96	032.87			624.98	631.51	619.22	629.74	:	604.85	625.21	629.02	025.13	614.06	015.04	613 94	613.73	625.06	627.05	634.49	634.94	619.87	618.81	619.04		Groundwater Elevations		er 6, 1998	Sumi
8.70	13.86	5.46			12.75	6.32	15.06	7.01	:	7.89	19.32	14.03	9.09	19.90	19.60	In an	27, 176	8.90	86.51	5.60	2.08	14.07	14.72	16.75		Depth to Water (ft.)		Novemi	mary of G
627.41	624.21	632.74	:		63511	631.66	619.56	627.41	:	604.71	625.47	630.75	625.24	613.99	613.87	013.07	611707	632.08	627.24	635.43	635.75	620.78	619.46	619.19	NSP Wells	_5		November 23, 1998	Table 2 Summary of Groundwater Elevation
7.81	14.00	4.81	;	715.01	2 2	5 4	15.18	5.16	:	7.83	19.43	14.03	9.43	19.25	19.33	19.76	77	10:01	13.67	5.43	2.70	14.60	14.99	16.42		Depth to Water (ft.)	3 116		r Elevatio
628.30	624.07	633.39	:	024,44		25 029	619.44	629.26	:	604.77	625.36	630.85	624.90	614.64	614.39	014.06		624.97	627.55	635.60	635.13	620.25	619.19	619.52		Groundwater Elevations	2 4, 1777		ns
× =	15.44	4.54	;	14.19	J. 90	^ N	15.21	4.31	-0.98	7.75	20.01	13.10	10.16	18.86	18.91	19.96		15.51	13.25	5.07	2.71	13.71	14.34	16.62		Depth to Water (ft.)	ngu		
6.27 N.2	622.63	633.66	1	623.67	032.98	22.71	11.019	630.11	614.23	604.85	624.78	631.78	624.17	615.03	614.81	613.86	76.620	636.3	627 97	635.96	635.12	621.14	619.84	619.32		Groundwater Elevations	August 23, 1999		
9.61	14.01	5.03	12.96	12.98	12.92	13.02	16 (2)	617	:	5.24	19.36	16.95	5.37	19.13	19.11	20.28	10.00	17,00	M (M	6.63	3.32	15.66	• 15.21	15.62		Depth to Water (ft.)	Novem		
6.26-50	624.06	633.17	625.06	624.88	625.06	619.60	02.0.20	5C 8CV	36.119	607.36	625.43	627.93	628.96	614.76	614.61	613.54	624.98	027.14	637 1.	674 40	634.51	61919	618.97	620.32		Groundwater Elevations	November 29, 1999		

	T.W-12	11-W.L	MW-3	MW-2B	WW-7V	2- AN IAI		<b>X</b>		MW-17A+	MW-17•	MW-16*	MW-15	14.44	WW-14	MW-13C	MW-13B	MW-13A		. L - /m'.l.	MW-12	Number			
-	+	$\dashv$		H		$\perp$	$\downarrow$	-	$\vdash$	+	+		-	+		+		F	+	+	+				
	608.45	606.80	612.10	608.05	607.99	008.23	2008.40	20	22.00	89.213	633.88	642.20	641.21	039.13	2000	636.11	635.90	635.94	033.03	676 07	637.09	Casing	Tan of		
	•	;	11.41	-2.77	-4.26	/.5/	7.57	, , ,	:		:	;	;	:		:	20.43	20.57	11.3/	3	1 (11)	Water	Septemu	,	
	1	:	612.10	610.46	612.91	601.90	608.40					•	:	:		•	615.47	615.37	624.46	: :	SHORMAN	Groundwater	September 15, 1997		
		<u> </u>	11.41	-2.77	-4.26	7.37	7.57		:			:	4.24	5.02			20.59	21.33	11.54	:	E	Depth to Water	Octob	·	
:		:	600.69	610.82	612.25	600.86	600.83		:	:		:	636.97	634.13			615.31	614.61	624.29	:	Suchations	Groundwater	October 6, 1998		Sum
		•	11.82	-2.69	-4.31	7.87	8.02	reher Pa	:				4.03	4.95	:		20 69	21.38	9.79	12.35	Water (ft.)	Depth to	Novemb		nary of G
:	:		600.28	610.74	612.30	600.36	600.38	Kreher Park Monitor Wells	:	1		:	637.18	634.20	:		(15.21)	614.56	626.04	624.74	Elevations	Groundwater	November 23, 1998		Table 2 Summary of Groundwater Elevations
:	;		11.42	-2.80	-5.32	7.41	7.56	Wells	:	:			4.40	4.37	;	11.75	37.61	20.00	11.17	7.05	Waler (ft.)	Depth to	June 2,		r Elevatio
:	:	000.00	600 6X	610.85	613.31	600.82	600.84		;	;	:		636.81	634.78	:	Chrzn	, , ,	615.94	624.66	630.04	Elevations	Groundwater	: 2, 1999		BS
7.21	5.31	10.01	10.61	-2.71	-4.60	6.70	6.91		20.031	5.91	4.04		4.31	3.87	:	11.90		19.72	10.74	6.41	Water (ft.)	Denth to	Augus		
601.24	601.49	001.49	01.10	610.76	612.59	601.53	64.106		613.65	627.97	6,17,56		636.90	635.28	ŀ	624.00		616.22	625.09	630.68	Elevations	C	August 23, 1999		
:	6.02	11.51		:	:	7.63	6.91		16.61	3.77	2.88		4 9	4.43	11.21	17.32		20.25	12.95	8.24	Water (ft.)		Novemb		
:	600.78	600.59			:	600.60	600.65		611.74	630.11	639.32	050.50	01.919	634.72	624.90	618.58	015.07	07.517	622.88	628.85	Elevations	:	November 29, 1999		

<sup>Reference elevations surveyed by Dames & Moore,
Wells J.W.-I., MW-J., MW-9, MW-10, MW-10A, MW-11, MW-12, MW-14, and MW-15 surveyed in Sept. 1998.
Wells MW-8, MW-8A, MW-16, MW-17, and MW-17A surveyed in August 1999.
Wells MW-91 and MW-13C surveyed in November 1999.
Survey information for Kreher Park wells are from February 1995 SEH Report
I. Water fevel in well still rising; water.
2. Depth to free-phase hydrocarbons</sup> 

Table 3
Summary of Free Phase Hydrocarbon Thicknesses

1.ocation	Depth to	0	October 6, 1998		Nov	November 23, 1998	_	•	June 2, 1999	
		Depth to Hydrocarbon	Vell	Fret on	Depth to Hydrocarbon	Feet in Well	Feet on	Depth to Hydrocar bon	Feet in Well	Feet on Tape
EW-I	53.51	41.45	12.06	12.25	40.09	13.42	13.50	35.25	18.26	18.2
MW-7	17.88	(1)	(1)	10.14	(3)	9	10.01	(I)	9	9.91
MW-9	14.62	13.78	0.84	2.73	14.20	0.42	3.6	14.03	0.59	•
TW-13	14.82	(2)	(2)	(2)	(2)	(2)	(2)	18.10	0.31	2.2
MW-13A	45.33	43.22	2.11	4.73	-13.36	1.97	3	43.37	1.96	:
MW-1313	69.82	43.56	26.26	26.1	43.56	26.26	27.6	52.28	17.54	:
MW-15	15.59	14.78	0.81	2.94	13.93	1.66	2.09	13.26	2.33	2.6
Well Location	Depth to	۱,۷	August 23, 1999		Nove	November 29, 1999				
		Depth to Hydrocarbon	Feet in Well	Feet on Tape	Depth to Hydrocarbon	Feet in Well	Feet on Tape	Depth to Hydrocarbon	Feet in Well	Feet on
I-W:I	53.51	34.31	19.20	:	(2)	(2)	16.2			
MW-7	17.88	(3)	(1)	10.44	(2)	(2)	0			
MW-9	14.62	13.02	1.6	•	(2)	(2)	<u>^</u>			
1.M-13	14.82	(2)	< 6 inches	< 6 inches	(2)	(2)	<u>^</u>			
MW-13A	45.33	(1)	(1)	8.5	(2)	(2)	2.1			
MW-13B	69.82	(1)	(I)	26	(2)	(2)	12.1			
MW-15	15.59	3	(1)	10.6	(2)	(2)	0.67			

(1) Free phase hydrocarbons not detected by interface probe, free-phase hydrocarbons observed on tape.
(2) Product not measured
(3) Hydrocarbon thickness in well is difference between depth to bottom and depth to hydrocarbon/vater interface, Hydrocarbon thickness on tape measure after probe removed from the well.

Table 4 (Page 1 of 6)
November 1999 Groundwater Monitoring Results - VOCs and Inorganics
Northern States Power, Ashland, Wisconsin

	ĺ	4.87	56,400	15,100	118.95	116.2	NE	16	195	
		<0.47	6,500	<0.000>	9.6		200	2	1/0/1	Total VOCs:
020	124	0.00	*,000	.,000		10	2P 0>	<0.47		Xylene, total
}	3	20.50	2 600	<1 000>	<1.0	(0.1>	<0.50	<0.50	μg/L	m+p-Xylene
		21 A7	3.900	<380	9.6	5	<0.47	<0.47	μg/L	o-Aylene Styrene
		<0.27	<270	<210	13	14	<0.27	<0.27	μg/L	Yulong/S.
480	%	<0.27	<270	<220	<0.42	<0.42	<0.27	20.27	7/8/1	Total Trimothylbonia
		<0.27	<270	<210	13	14	20.27	20.27	16/5	1 3 S-Trimethylhonzona
343	68.6	<0.24	9,300	1,500	1.5	: 6	70.27	Z0 27	110/1	1,2,4-Trimethylbenzene
:	:	<0.27	<270	<220	<0.85>	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	20.27	<0.24	1.6/1	Toluene
40	<b>«</b>	4.4	13,000	7,000	26	24	×0.23	<0.27	IIo/I	n-Propylbenzene
700	140	<0.26	1,800	1,800	9.5	3	30.00	\$0.05	110/1	Naphthalene
	:	<0.56	<360	<450	0.40	10	<0.26	<0.26	JIE/L	Ethylbenzene
!		<0.25	002>	2200	20.10	<0 A8	50 <b>₹</b> 6	<0.56	μg/L	p-IsopropyItoluene
		\$2.0	250	0000	<1 6> 1.5	<1.7>	<0.25	<0.25	րք/Լ	Isopropylbenzene
<b> </b>		60.5	-000g	000	<1.0	<1.0	<0.28	<0.28	μg/L	sec-Butylbenzene
U	9.5	76.477	7 800	1.600	45	51	<0.34	<0.34	µg/L	n-Butylbenzene
		(F) (F)		2.200	2.9	3.0	<0.24	<0.24	µg/L	Benzene
100						VOCs				
200	6	<3.2	48	91	2,400	2,400	110	\$3.22	1/811	Cymnes, requi
5,000	2,500	300	∹12	:12	• 12	<12		3 2	1457	Cyanide total
100	20	<2.1>	2.8	2.4	5.6	6.0	1/2/2	2 2	/I	Zinc. dissolved
2	1.5	<1.4	<u>^:</u> 4	<1.5>	<0.2>	2	213	<u> </u>	110/1	Nickel, dissolved
300	150	40	17,000	2,300	4,500	21.7	<1 0>	<4 \$\	ug/L	Lead, dissolved
1,300	130	2.7	<0.47	<0.47	/0.4/	7 7.00	28.000	\$10°	110/I	Iron, dissolved
180	ē	.0.72>	<u>^-</u>	1.5	0.42	50 A7	<0.47	<0.47	ng/L	Copper, dissolved
20	J	7.65	/4.k		Ch. II.	<0.0% <0.0%	-0.42	<0.42	րե/1,	Chromium, dissolved
			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	< d >	<4.2	<4.2	<4.2	<4.2	J/g/L	Arsenic, dissolved
ĺ					<b>.</b>	Inorganics				
<u>.</u>	PĂ.	UP-ANIV	VF-ANIV	F-MIN	MW-J Dup	NIW-3	NIW-2	NIW-I	Units	Analyte
	-				NSP Wells					Amalata
	l									

Table 4 (Page 2 of 6)
November 1999 Groundwater Monitoring Results - VOCs and Inorganics
Northern States Power, Ashland, Wisconsin

. 000. 4 0003.	Aylene, total Total VOCs:	Yulong total	m-h-Xvlene	o-Xylene/Styrene	Total Trimethylbenzene	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	Loluene	n-Propylbenzene	Naphthalene	Ethylbenzene	p-isopropyltoluene	Isopropylbenzene	sec-Butythenzene	n-isulyibenzene	Benzene		Cyanide, total	Zilic, dissolved	Zing dissolved	Nichal dissolved	Iron, dissolved	Copper, dissolved	Chromium, dissolved	Arsenic, dissolved		Analyte	
الهرد	1/gri	HB/L	#6/L	1/0/1	րջ/Լ	րք/Լ	ηβ/L	1/811	Hg/I.	Hg/L	µg/L	µg/L	hg/L	1/g/L	ng/L	hg/L		11/2/1	μg/L	η.β/L	Jug/L	μg/L	μg/L	ng/i.	hg/L		Units	
1,505	<24	2 6	2 6	2	<b>~13</b>	<14	<b>^13</b>	<12	<b>&lt;13</b>	1,200	71	<b>-28</b>	<b>^:</b> 3	<14	94	<12		<4.0>	<u> </u>	<1.7	<1.9>	320	<0.47	<0.76>	<4.2		NW-5	
45,800	061>	07.05	) (SO)	<100 100	<180	<210	<180	2,100	-260	2,000	1,900	<240	<250	<500	2,800	17,000		28	<12	<0.66	<1.4	1,200	<0.47	<0.42	4.2		VS-AMV	,
29,500	<380	<1,000	/380	7300	<360	<420	<360	7,200	-:520	<700	<460	<480	<500	<1,000	2,300	20,000	\ \ \ \	56	<12	<0.86>	<u> </u>	360	<0.47	<0.42	<4.2		NIW-5B	
0.85	<0.19	<0.52	<0.19	6.6	<0.18	<0.21	<0.18	<0.21	∙0.26	<0.35	<0.23	<0.24	<0.25	<0.50	<0.20	0.85	VOCs	<3.2>	26	<2.1>	<1.7>	13	38	<0.42	<4.2	Inorganics	MW-5C	NSP
<0.43>	<0.47	<0.50	<0.47	0.27	70.07	<0.27	<0.27	< 0.24	• 0.27	<0.43>	<0.26	<0.56	< 0.25	<0.28	<0.34	<1.0		<3.2>	27	2.7	<3.0>	30	35	<0.42	<4.2		MW-SC Dup	NSP Wells
NE NE	<0.47	<0.50	<0.47	20.27	72.0	<0.77	<0.27	<0.24	.0.27	<0.25	<0.26	<0.56	<0.25	<0.28	<0.34	< 0.24		:	:		:	:	;		:		NIW-6	
1.2	<0.47	<0.50	<0.47	/7.0>	72.0	CO 07	<0.27	<0.24	. 0.27	1.2	<0.26	<0.56	<0.25	<0.28	<0.34	<0.24		<3.2	37	3.8	13	26	5.1	<u> </u>	<4.2		V9-ANIV	
N D	<0.19	<0.52	<0.19	-\(\chi_{\mathbb{0}}\)	20.21	20.10	<0 1 <b>8</b>	<0.21	. 0.26	<0.35	<0.23	<0.24	<0.25	<0.50	<0.20	<0.22		<5.0>	<12	<1.7>	<1.4	12	<0.47	<0.42	<4.2		NW-8	
		124			•	96	00.0	7 89	:	<b>∞</b>	140	:	:	:	;	0.5		40	2,500	20	1.5	150	130	10	5		PAL.	
		620				480	3	2	:	40	700	:	:	:	:	5		200	5,000	<u>.</u>	2	300	1,300	100	Š		3	

<sup>&</sup>lt;- Less than Limit of Detection, <> - Less than Limit of Quantitation, but greater than Limit of Detection Concentrations exceeding the ES have been shaded.

Table 4 (Page 3 of 6)
November 1999 Groundwater Monitoring Results - VOCs and Inorganics
Northern States Power, Ashland, Wisconsin

					NSP Wells	Wells					
Analyte	Units	VR-ANIN	NIW-9	V6-ANIV	MW-9A Dup	86-MIN	N1V-10	V01-MIV	NIW-10A Dup	114.8	<u> </u>
				lnoi	Inorganics						
Arsenic, dissolved	րք/1,	<4.2	-41.2	<4.2	<4.2	<4.2	<4.2	<4.2	<b>∴4.8</b> ∨	5	š
Chromium, dissolved	μg/L	<0.42	1.6	<0.42	<0.42	<0.42	-0.42	√0.42	<0.42	ē	6
Copper, dissolved	μg/L	<0.82>	<0.47	<0.47	<0.47	<0.47	31	<0.47	<0.47	130	100
Iron, dissolved	μg/L	75	11,000	37	42	85	<3.3>	4.3	5.2	150	100
Lead, dissolved	μg/L	<1.4	<1.4	<1.4	<1.4	<2.0>	<4.3>	<2.4>	<14		
Nickel, dissolved	μg/L	<1.1>	<2.2>	<0.66	<0.66	<0.1>	4.7	<1.5>	<1.7>	3 :	3
Zinc, dissolved	μg/L	17	<12	<12	<12	<i2< td=""><td>17</td><td>15</td><td>10</td><td>2 500</td><td></td></i2<>	17	15	10	2 500	
Cyanide, total	μ <u>g</u> /],	<8.0>	780	79	74	51	<3.2	<3.2	<3.2	40	200
				<	VOCs						
Benzene	μg/L	000,81	56,000	5,400	5,600	180	<0.24	<0.24	<0.24	0.5	5
n-Butylbenzene	1/3il	<250>	<1,700	<170	<170	250	<0.34	<0.34	<0.34	;	;
sec-Butylbenzene	ug/L	<500	<1,400	<140	<140	<16>	<0.28	<0.28	<0.28	:	:
Isopropylbenzene	hg/L	<250	<1,300	<130	<130	<13	<0.25	< 0.25	<0.25	:	1
p-Isopropyltoluene	hg/L	<240	<2,800	<280	-280	<28	<0.56	< 0.56	<0.56	:	;
Ethylbenzene	μg/L	<230	<1,800>	<130	<130	<34>	<0.26	<0.26	<0.26	140	700
Naphthalene	ll/gid	<350	24,000	1,500 •	1,500	610	<0.25	<0.25	<0.25	æ	â
n-Propylbenzene	ug/L	<260	<1,300	<130	<130	<13	<0.27	<0.27	<0.27	:	:
Tolucne	ug/L	<410>	11,000	1,600	1,600	390	<0.24	<0.24	<0.24	68.6	343
1,2,4-1 rimethylbenzene	lıg/L	<u>&lt;18</u> 0	<1,300	<130	<130	<37>	<0.27	<0.27	<0.27		
1,3,5-Trimethylbenzene	Jug/L	210	<1,400	<140	<140	<14	<0.27	<0.27	<0.27	96	480
Total Trimethylbenzene	ng/L	<u>^180</u>	<1,300	<130	<130	<37>	<0.27	<0.27	<0.27		
o-Xylene/Styrene	μg/L	<190	<2,400	<240	<240	270	<0.47	<0.47	<0.47		
m+p-Xylene	rl/gri	<520	<2,500	<250	<250	150	<0.50	<0.50	<0.50	124	620
Xylene, total	µg/L	<190	<2,400	<240	<240	420	<0.47	<0.47	<0.47		
Fotal VOCs:	μg/L	18,660	92,800	8,500	8,700	1,937	ND	ND	UN		
•											

Table 4 (Page 4 of 6)
November 1999 Groundwater Monitoring Results - VOCs and Inorganics
Northern States Power, Ashland, Wisconsin

		32,500	218.1	23,080	32,000	1,133	ND ND	µg/L	Total VOCs:
		<1,200>	29	<820>	<1,100>	63	<0.47	μg/L	Xylene, total
620	124	<1,200>	11	<500	<1,100>	<26	<0.50	μg/L	m+p-Xylene
		<470	81	<820>	<470	63	<0.47	1/811	o-Xylenc/Styrene
		<270	<3.2>	<270	<270	35	<0.27	μg/L	Total Trimethylbenzene
480	96	<270	<1.4	<270	<270	<u></u>	<0.27	µg/L	1,3,5-Trimethylbenzene
		<270	<3.2>	<270	<270	35	<0.27	μg/L	1,2,4-Trimethylbenzene
343	68.6	7,400	32	0.05	5,100	<u></u>	<0.24	μg/L	Toluene
;		<270	<1.3	<270	<270	<13	<0.27	μg/L	n-Propylbenzene
40	8	9,000	<b>88</b>	11,000	12,000	730	<0.25	µg/l.	Naphthalene
700	140	2,900	<2.9>	<260	2,300	50	<0.26	μg/L	Ethylbenzene
:	:	<560	<2.8	<560	<560	<12	<0.56	1/Bit	p-Isopropyltoluene
;	:	<250	<1.3	<250	<250	<b>^13</b>	<0.25	1/811	Isopropylbenzene
:	:	<280	<1.4	<360>	<280	<25	<0.28	hg/L	sec-Butylbenzene
:	:	<340	29	2,400	2,800	65	<0.34	μg/l.	n-Butylbenzene
<u>-</u>	0.5	12,000	34	7,000	8,700	061	• 0.24	pp/L	Benzene
					<b>VOCs</b>	_			
┪	40	110	<4.0>	330	190	41	13	µg/L	Cyanide, total
<u>.</u>	2,500	14	<12	<12	<12	<12	12	μg/L	Zinc, dissolved
- 00	20	2.4	<1.0>	<1.0>	<0.83>	2.4	<0.66	J/g/L	Nickel, dissolved
5	1.5	<1.4	<1.4	<1.4	<1.4	<1.4	<1. <b>8</b> >	μg/L	Lead, dissolved
	150	37,000	7.8	370	520	38	21	μg/L	Iron, dissolved
_	130	<0.47	<0.47	<1.2>	5.6	<0.87>	<0.47	μg/L	Copper, dissolved
<u>=</u>	ē	<0.75>	<0.42	<0.42	<0.47>	<0.42	<0.42	Jug/L	Chromium, dissolved
50	~	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	μg/L	Arsenic, dissolved
					Inorganics	Ino			
<b>3</b>	lv.I	FI-ANIV	MW-13C	VET-ANIV	CI-AV.I.	NIV-12	NIV-II	Units	Analyte
				NSP Wells	NSP				

Table 4 (Page 5 of 6)
November 1999 Groundwater Monitoring Results - VOCs and Inorganies
Northern States Power, Ashland, Wisconsin

Total VOCs:   1115/L   190,000   16   ND   ND   1.3	Hg/L <4,700 <0.19 <0.47 <0.47	m+p-Xylene μg/L <5,000 <0.52 <0.50 <0.50 <0.50	o-Xylene/Styrene µg/L <4,700 <0.19 <0.47 <0.47 <0.47	enzene µg/L	μg/L <2,700 <0.21 <0.27 <0.27	μg/L <2,700 <0.18 <0.27 <0.27	Toluene µg/L 36,000 <0.21 <0.24 <0.24 <0.24	n-Propylbenzene μg/L <2,700 <0.26 <0.27 <0.27 <0.27	Naphthalene µg/L 24,000 <0.35 <0.25 <0.25 1.3	Ethylbenzene µg/L <2,600 <0.23 <0.26 <0.26 <0.26	p-Isopropyltoluene µg/L <5,600 <0.24 <0.56 <0.56 <0.56	Isopropylbenzene µg/L <2,500 <0.25 <0.25 <0.25 <0.25	μg/L <2,800 <0.50 <0.28 <0.28	n-Butylbenzene µg/L <3,400 <0.20 <0.34 <0.34 <0.34	Benizene μg/L 130,000 16 <0.24 <0.24 <0.24	VOCs	Cyanide, total μg/L 5,300 <3.2 <3.2 <3.2	Zinc, dissolved µg/L <12 <12 <12 <12	Nickel, dissolved µg/1. 18 7.5 <1.5> <1.1>	Lead, dissolved μg/L <2.0> <1.4 <1.8> <2.2>		Copper, dissolved μg/L <1.7> 32 <0.47 <0.47	6.8	Arsenic, dissolved μg/L <4.2 <4.2 <4.2 <4.2	Inorganics	Analyte Units MW-15 MW-16 NW-17 NW-17A Trip Blank	NSP Wells
1.3	<0.47	<0.50	<0.47	<0.27	<0.27	<0.27	<0.24	<0.27	1.3	<0.26	<0.56	<0.25	<0.28	<0.34	<0.24		:	-	:	;		:	:	:		Trip Blank	
		124 620			96 480	$\dashv$	68.6 343	:	8 40	140 700	:	:	;	:	0.5		-	5	4	-	4	_	100	5 50		PAL ES	

Table 4 (Page 6 of 6)

November 1999 Groundwater Monitoring Results - VOCs and Inorganics

Northern States Power, Ashland, Wisconsin

		5,290	3,290	11.17	51,500	10.7	2,177	4,129	η/βη	Total VOCs:
		<120	<120	<0.47	<380	<0.19	210	<99>>	1/8ાવ	Xylene, total
620	124	<120	<120	<0.50	<1,000	<0.52	110	<100	ղ/ո՞ս	m+p-Xylene
		<120	<120	<0.47	<380	<0.19	100	<99>>	ղ/քո	o-Xylene/Styrene
		. <67	<200>	<0.27	<600>	<0.18	49	<100>	µg/L	Total Trimethylbenzene
480		<68	<68	<0.27	<420	<0.21	<8.4>	<42	եջ/Լ	1,3,5-Trimethylbenzene
	?	<67	<200>	<0.27	<600>	<0.18	49	<100>	ո8/Ր	1,2,4-Trimethylbenzene
343	68.6	<60	<60	<0.24	13,000	<0.40>	25	<42	ղ/Ցո	Toluene
:	:	<67	<67	<0.27	<520	<0.26	<6.4	<52	րք/Լ	n-Propylbenzene
40	œ	4,200	2,500	8.0	4,100	1.7	920	1,200	μg/L	Naphthalene
700	140	520	270	<0.26	3,600	<0.23	200	430	μg/L	Ethylbenzene
!		<140	<140	<0.56	<480	<0.24	<6.0	<48	μg/L	p-Isopropyltoluene
:	:	<63	<63	<0.25	<500	<0.25	<6.3	<50	µg/L	Isopropylbenzene
:	:	<70	<70	<0.37>	<100	<0.50	<12	<100	µք/L	sec-Butylbenzene
:	:	570	<85	1.2	6,200	<0.20	83	<40	μg/L	n-Butylbenzene
5	0.5	<60	320	1.6	24,000	8.6	690	2,300	1/gո	Benzene
				·		VOCs				
200	40	<3.2	91	<6.0>	24	<3.2	12	<6.0>	μg/L	Cyanide, total
5,000	2,500	<12	<12	<12	<12	<12	<12	<12	րք/Լ	Zinc, dissolved
100	20	<1.0>	<1.0>	<0.76>	<0.66	3.2	<0.95>	<0.70>	րջ/Լ	Nickel, dissolved
12	1.5	. 2.6 -	-1.4	÷1.4	. 1.4	^I.A	<2.1>	<1.4	րբ/1,	Lead, dissolved
300	150	15,000	3,500	2,900	210	8.8	4,600	2,500	1/ցո	Iron, dissolved
1,300	130	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	րթ/Լ	Copper, dissolved
<u>e</u>	ē	<0.56>	<0.42	<0.42	<0.42	<0.42	<1.0>	< 0.42	1/Ձո	Chromium, dissolved
50	5	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	րլ <sub>//</sub> L	Arsenic, dissolved
						Inorganics				
9	PAL	11-W.I.	NIW-7	MW-3 (NET)	NIW-2B (NET)	NIW-2A(NET)	MW-2(NET)	MW-1 (NET)	Units	Analyte
					Kreher Park Wells	<b>x</b>				

<sup>&</sup>lt;- Less than Limit of Detection, <>- Less than Limit of Quantitation, but greater than Limit of Detection Concentrations exceeding the ES have been shaded.

# Table 5 (Page 1 of 6) November 1999 Groundwater Results - SVOCs Northern States Power, Ashland, Wisconsin

1 otal SYOCS:	Eyrene	Burney	Phenol	Phenanthrene	Naphthalene	3 & 4-Methylphenol	2-Methylphenol	z-wemymaphmatene	and (1,2,5-cd) Lyrence	Independent 2 3 - cal Parama	Phoreix	Fluoranthene	2,4-Dimethylphonol	Dibenzo (a,h) Anthracene	Di-n-Butylphthalate	Chrysene	Bulyi Benzyi Phihalate	Benzo(K)Huoranthene	Denzo(B,n,) peryiene	Benzo(a h Dandani	Benzoth)Bucanila	Benzo(a)nyrene	Benzo(a)anthracene	Anthracene	Acenaphthylene	Acenaphthene	Analyte	
Hg/L	+	цуг	/1	µ₽/L	1/8ով	µg/L	7/gri	μg/L	ng/L	hB/r.	1871	16/5	1/0/1	րք/Լ	μg/L	hg/L	µg/L	hg/L	7/3rd	1/34	1/84	#8/C	1.0/1	1/311	1/Ձվ	μg/L	Units	
S	4.3	<0.76	3	<0.65	<1.5	<1.5	£	<1.4	<0.69	3.5	20.07	20.2	3	<0.69	<1.6	<0.68	Ê	À.	<1.2	<0.64	2.	2 6.70	25.02	<u>^</u>	<1.4	<1.3	NW-I	
20.1	<2.8>	<0.76	j. j.	<b>≙</b> \$	<1.5	<1.5	<1.3	<1.4	<0.69	)  -  -	2.15	3 2	2	<0.69	<1.6	2.6	<u>^:</u>	<1.5>	<2.9>	3,8	<2.9>	50.76	70.77	<1.7	<1.4	<1.3	NIW-2	
141.6	<3.7>	<0.76	10		16	<1.5	<1.3	44	<0.69	4.6	3.9	3.1	2 3	\$0.69	<1.6	<0.68	4.1	<b>^1.3</b>	<1.2	<0.64	<1.2	<0.76		67	9.7	36	VIVA-3	
55.2	<b>3.</b> I>	<0.76	15	5	14	<1.5	ći.3	<u>^</u>	<0.69	<3.6>	2.9	<u> </u>	0.00	<0.69	<1.6	<0.68	1.1>	<1.3	<1.2	<0.64	<1.2	<0.76	1.5		 	33	AUV-J Dap	NSP Wells
5,543	<64	<38	\$ \$ \$	7,140	4 100	<75	<66	1,000	<34	<74>	-54	<150	2	2	<b>\$</b> 2	<34	<53	<66	<58	<32	<60	<38	\$		<170>	<0110>	F-AVIN	<b>J</b> .
11,493	<64	350	<79>	2,200	7 500	780	410	1,300	<34	<74>	34	630	24	2	<82	<34	<b>\$3</b>	<66	<58	<32	<60	<38	<59	2,0	170	<67	VF-ANIV	
42.1>	<1.3	<0.76	<0.65	⟨₹!>	3 3	<15	<1.3	<1.4	<0.69	:::	-:0.67	۵.1	<0.69	1.0	\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	<0.68	<u>^.</u>	<b>^1.3</b>	<1.2	< 0.64	<1.2	<0.76	<1.2	<u>/</u>		<u> </u>	MF-ANN	
	00	1,200	ł	×	,   ,		;	:	;	80	08	:	20	1		000	-	;	:	0.02	0.02	ı	600	:			<u> </u>	
	250	6.000	;	40	; :		:	:	•	<del>1</del> 00	00 <b>†</b>	1	100	:		0.7	:	:	:	0.2	0.2	1	3,000	:	]:		ī.	

<sup>&</sup>lt; - Less than Limit of Detection, <> - Less than Limit of Quantitation, but greater than Limit of Detection Concentrations exceeding the ES have been shaded.

Table 5 (Page 2 of 6)
November 1999 Groundwater Results - SVOCs
Northern States Power, Ashland, Wisconsin

Total SVOCs: μg/L	Pyrene µg/L	Phenol µg/L	Phenanthrene µg/L	Naphthalene μg/L	3 & 4-Methylphenol µg/l.	2-Methylphenol µg/L	2-Methylnaphthalene µg/L	Indeno (1,2,3-cd) Pyrene pp/L	Fluorene µg/L	Fluoranthene µg/L	2,4-Dimethylphenol µg/L	Dibenzo (a,h) Anthracene μg/L	Di-n-Butylphthalate µg/L	Chrysene µg/L	Butyl Benzyl Phthalate µg/L	Benzo(k)fluoranthene µg/L	Benzo(g,h,i)perylene µg/L	Benzo(b)fluoranthene µg/L	Benzo(a)pyrene µg/L	Benzo(a)anthracene µg/L	Anthracene µg/L	Acenaphthylene µg/L	Acenaphthene µg/L	Analyte Units	
3,984		. <7.6	. ∠200>	1,100	. <i5< th=""><th><b>-13</b></th><th>&lt;160&gt;</th><th>. 55</th><th>. 450</th><th>310</th><th><u>\</u></th><th>&lt;6.9</th><th>. &lt;16</th><th>. 130</th><th><u>-</u></th><th>. 77</th><th>54</th><th>. 75</th><th>120</th><th></th><th>360</th><th>93</th><th>&lt;260&gt;</th><th>NIW-S</th><th></th></i5<>	<b>-13</b>	<160>	. 55	. 450	310	<u>\</u>	<6.9	. <16	. 130	<u>-</u>	. 77	54	. 75	120		360	93	<260>	NIW-S	
3,580.3	<1.7>	=	7.2	2,200	190	220	270	<0.69	<3.0>	<1.7>	620	<0.69	<1.6	<0.68	<u>^</u>	<u>^:</u> .	<1.2	<0.64	<1.2	<0.76	<1.7>	21	33	VS-ANIV	
19,510	<26	2,500	<13	3,400	5,500	3,300	310	47	<22	<b>^13</b>	4,400	<u>^4</u>	<33	<14	21	<26	\$3	<b>~13</b>	<24	<15	\$	<b>27</b>	△7	NIV-SB	
ND	<1.3	<0.76	<0.65	<1.5	<1.5	<1.3	<1.4	-0.69	4.1	<0.67	<b>3.1</b>	<0.69	·16	<0.68	<u>^.</u>	<1.3	<1.2	<0.64	<1.2	<0.76	<1.2	<1.4	<1.3	AIW-5C	16.51
ND	<1.3	<0.76	<0.65	<1.5	<1.5	<1.3	<1.4	<0.69	<1.1	<0.67	<3.1	<0.69	<1.6	<0.68	<1.1	<1.3	<1.2	<0.64	<1.2	<0.76	<1.2	<1.4	<1.3	NIW-SC Dup	NOT ALCHO
ND	<1.3	<0.76	<0.65	<1.5	<1.5	<1.3	<1.4	< 0.69	<u>^1.</u> 1	<0.67	<3.1	<0.69	9.1>	<0.68	1.1>	<1.3	<1.2	<0.64	<1.2	<0.76	<1.2	<1,4	<1.3	NIW-6A	
ND	<1.3	<0.76	<0.65	<1.5	S'1>	<1.3	<b>6</b> .1>	<0.69	<1.1	<0.67	<3.1	<0.69	9.1>	89.0>	1.1>	<1.3	<1.2	<0.64	<1.2	<0.76	<1.2	<1.4	<1.3	NIW-8	
649	<13	59	<6.5	110	200	130	<14	<6.9	<11	<6.7	150	<6.9	<16	<6.8	<u>-</u>	<13	<12	<6.4	<12	<7.6	<12	<14	<13	VR-ANIV	
	50	1,200	1	œ	:	:	:	;	80	80	:	20	:	0.02	:	:	;	0.02	0.02	:	600	;	;	PAI.	
	250	6,000	:	â	:	. :	:	:	400	400	:	100	:	0.2	1	:	;	0.2	0.2	:	3,000	:	:	:S:	

# Table 5 (Page 3 of 6) November 1999 Groundwater Results - SVOCs Northern States Power, Ashland, Wisconsin

Naphthalene         μg/L         67,000           Phenanthrene         μg/L         15,000           Phenol         μg/L         <140>           Pyrene         μg/L         <2,300>	alene µg/L hrene µg/L µg/L µg/L	alene μg/L shrene μg/L	μg/L	Туан		3 & 4-Methylphenol µg/L <310>	2-Methylphenol µg/L <200>	z-wellymaphinatene µg/L 25,000	cne µg/L	133-cd) P	/1	ll on	2,4-Dimethylphenol µp/L <440>	Dibenzo (a,h) Anthracene μg/L 350	Di-n-Butylphthalate µg/L <160	Chrysene µg/L 1,800	nzyi Phihalate µg/L	J/B/L	Hg/L	1/8rl	1/84	F. 67 &		Anthracene µg/1. 3,900	Acenaphthylene µg/l. 5,400	Accuaphthene lig/L 4,900	Special	
<u>1</u>	<1.2>	<6.4>	<9.6>	3	30	<20>	<7.9>	22>	<u>\$</u> ,4	\$3.4	6.%	260	<15	<3.4	<8.2	3.4	<5.3	<6.6	<5.8	<3.2	6.0	2.0	2	·\$5.9	<14>	<6.7	V6-ANIV	
56.5	<2.6	2.0>	4.7	20	70	<5.9>	<2.6	<7.4>	<u>^:</u> ^	2.2	\J.8>	à di	٠.٨2	<1.4	<3.3	<4.1>	5.1	<2.6	<2.3	<b>^1.3</b>	2.4	/:0	<u> </u>	<2.8>	<5.8>	<2.7	MW-9A Dup	
9,020	×64	<38	1,100	2,200	3 300	<75	<66	2,300	<34	470	500	/130		<b>\$34</b>	<82	<34	<53	<66	*S\$	<32	<60	<b>%</b> 2>	20	440	910	<67	116-ANY	NSP Wells
ND	<1.3	<0.76	<0.65	\ <u>\</u>		<1.5	<1.3	<u>^</u>	<0.69	<u>^.</u> .	<0.67	\ <u>3.1</u>	2	<0.69	<1.6	89.0>	<b>4.1</b>	<1.3	<1.2	<0.64	<1.2	<0.76	27.2	<1.7	<b>^1.4</b>	<1.3	AIVY-10	
S	<b>6.3</b>	<0.76	<0.65	<1.5		<1.5	<1.3	<1.4	<0.69	4.1	<0.67	6.1	3 3	<0.69	<1.6	<0.68	<1.1	<1.3	<1.2	<0.64	<1.2	<0.76	71.2	2	< 4	<1.3	NIVY-10A	
ND	<1.3	<0.76	<0.65	<1.5	2	<15	<u>&lt;1.3</u>	<b>&lt;1.4</b>	<0.69	4.1	<0.67	<u>3.</u>	6.07	<0.60	<1.6	<0.68	<u>^</u> .	<1.3	<1.2	<0.64	<1.2	<0.76	7.17	3	<u>^</u>	<1.3	MW-10A Dup	
	õ	1,200	:	æ	:		:	;	:	80	80	:	2	3)		0.02		1	:	0.02	0.02	:	600			:	PAI.	
	250	6.000	:	40	:				;	400	400	:	5	100		0.2	:	;	:	0.2	0.2	;	3,000			:	ES	

<sup>&</sup>lt;- Less than Limit of Detection, <> - Less than Limit of Quantitation, but greater than Limit of Detection Concentrations exceeding the ES have been shaded.

# Table 5 (Page 4 of 6) November 1999 Groundwater Results - SVOCs Northern States Power, Ashland, Wisconsin

l otal SVOCs:	╁		Filehanuhene	Bloomite	Northbelon	2-weinyphenol	2-Mathylabanal	Indeno (1,2,3-cd) Pyrene	rinorene	l·luoranthene	2,4-Dimethylphenol	Dibenzo (a,h) Anthracene	Di-n-Butylphthalate	Chrysene	Butyl Benzyl Phthalate	Benzo(k)Huoranthene	Benzo(g,h,i)perylene	Benzo(b) fluoranthene	Benzo(a)pyrene	Denzo(a)anthracene	Anthracene	Acenaphthylene	Acenaphthene	Analyte	
1/3H	hg/L	µg/L	μg/L	1/But	1/8/1	Jugyl.	hg/L	μg/L	hg/L	Hg/L	hg/L	μg/L	JIg/L	Hg/L	μg/L	μg/L	μg/L	μg/L	T/Blt	μg/L	μg/L	μg/L	µg/L	Units	
NB NB	£	<0.76	<0.65	<u>^</u>	(1.5	A.S.	<u>^</u>	<0.69	Ê	<0.67	3.1	<0.69	<1.6	<0.68	4.1	<1.3	<1.2	<0.64	<1.2	<0.76	<1.2	\$1. <b>4</b>	ć.j	NW-11	
325	26	ŝ	<b>&lt;13</b>	240	<30	-26	\$\$\$	<14	<b>&lt;22</b>	<b>63</b>	<62	<b>4</b> 4	£	<u>-14</u>	21	26	\$23	ŝ	\$24	ćs	<b>\$24</b>	<b>&lt;27</b>	27	AIW-12	
25,410	<520	<300	2,800	11,000	<600	<520	4,300	<280	<950>	<630>	<1,200	<280	<660	910	<420	<530	<470	<260	<1,000>	<340>	<1,000>	<880>	<1,600>	E1-W.1	NSP
5,791	<64	<b>438</b>	150	3,800	<97>	>66	1,200	<34	<110>	<34	<150	<34	<82	<34	<53	<66	<58	<32	<60	<b>438</b>	<64>	370	<67	AIW-13A	NSP Wells
ND	<1.3	<0.76	<0.65	<1.5	<1.5	<b>4.3</b>	4.1	<0.69	<1.1	<0.67	<3.1	<0.69	<1.6	89.0>	1.1>	<1.3	<1.2	<0.64	<1.2	<0.76	<1.2	<1.4	<1.3	MW-13C	
8,549	<64	<76>	130	6,100	290	<140>	1,000	<34	<79>	<70>	<260>	<34	<82	ŝ	ŝ	<66	<58	<32	<60	<38	<64>	<210>	<130>	F1-A\IV	
	50	1,200	+	8	;	:	;	;	80	80	:	20	:	0.02	•	'	,	0.02	0.02	<b>,</b> ;	600	:	:	P'A.	
	250	6,000	;	40	:	:	:	:	400	400	:	- 00	:	0.2	'	1	:	0.2	0.2	1	3,000		:	3	

# Table 5 (Page 5 of 6) November 1999 Groundwater Results - SVOCs Northern States Power, Ashland, Wisconsin

		AD	ND	<1.2>	955,000	1/g/I	Total SVOCs:
250	50	<1.3	<1.3	<1.3	<18,000	μg/L	Pyrcne
6,000	1,200	<0.76	<0.76	<0.76	<11,000	hg/L	Phenol
;	;	<0.65	<0.65	<0.65	98,000	µg/L	Phenanthrene
è	<b>«</b>	<1.5	<1.5	<1.5	450,000	Jug/L	Naphthalene
ŀ	;	<1.5	<1.5	<1.5	<21,000	µġ/1.	3 & 4-Methylphenol
:	:	<1.3	<1.3	<1.3	<18,000	μg/L	2-Methylphenol
;	:	<1.4	<1.4	<1.4	160,000	µg/1.	2-Methylnaphthalene
:	;	<0.69	<0.69	<0.69	<9,700	µg/L	Indeno (1,2,3-cd) Pyrene
100	80	<1.1	4.1	<u>^.</u>	<35,000>	µg/l.	Phorene
400	80	<0.67	<0.67	<0.67	43,000	hg/L	Fluoranthene
:	:	<3.1	<3.1	<3.1	<43,000	րք/ե	2,4-Dimethylphenol
100	20	<0.69	<0.69	<0.69	<9,700	hg/L	Dibenzo (a,h) Anthracene
:	:	<1.6	<1.6	<1.6	<23,000	րք/Լ	Di-11-Butylphthalate
0.2	0.02	<0.68	<0.68	<0.68	32,000	րց/1.	Chrysene
:	;	<u>^</u>	1.1>	<1.2>	<15,000	µg/L	Butyl Benzyl Phthalate
;	;	<1.3	<1.3	<1.3	<18,000	µg/L	Benzo(k)fluoranthene
;	:	<1.2	<1.2	<1.2	<16,000	μg/L	Benzo(g,h,i)perylene
0.2	0.02	<0.64	<0.64	<0.64	<9,000	µg/L	Benzo(b)fluoranthene
0.2	0.02	<1.2	<1.2	<1.2	<35,000>	μg/L	Benzo(a)pyrene
:	:	.0.76	<0.76	< 0.76	<000,11>	յուց/1.	Benzo(a)anthracene
3.000	600	<1.2	-:1.2	<1.2	<37,000>	Jug/1.	Anthracene
:	;	<1.4	<1.4	<1.4	<54,000>	րք/L	Acenaphthylene
;	;	<1.3	<1.3	<1.3	<19,000	րց/Լ	Acenaphthene
ž.	PAL.	NIV-17A	NW-17	91-ANIW	NIW-15	llaits	Analyte
	<b>'</b>		NSP Wells	NSP			

# Table 5 (Page 6 of 6) November 1999 Groundwater Results - SVOCs Northern States Power, Ashland, Wisconsin

Com St Ocs.	Tatal SVOCe	Pilenoi	Brond	Dhomathrana	Naphthalene	3 & 4-Methylphenol	2-Methylphenol	2-Methylnaphthalene	Indeno (1,2,3-cd) Pyrene	Fluorene	Fluoranthene	2,4-Dimethylphenol	Dibenzo (a,h) Anthracene	Di-n-Butylphthalate	Chrysene	Butyl Benzyl Phthalate	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Benzo(b)fluoranthene	Benzo(a)pyrene	Benzo(a)anthracene	Anthracene	Acenaphthylene	Acenaphthene	Analyte	
7.84	1/8/L	μg/L	1/8/1		րք/Լ	μg/L	µg/L	µg/L	μg/L	µg/L	hg/L	µg/L	lıg/L	lug/L	hg/L	Hg/L	hg/L	μg/L	hg/L	μg/L	1/grt	μg/L	μg/L	µg/L	Units	
3,073	350.1	<30	210	310	1,500	<60	<52	520	<28	<120>	98	<120	-28	<66	<b>\$84</b> >	<42	\$3	<47	26	<100>	<30	<69>	<64>	310	CERN) I-MIN	
371	!	<3.0>	17	3	260	<6.0	<5.2	32	20	<b>≙</b>  >	33	<12	<2.8	<6.6	23	<4.2	<u>^</u> 16>	22	22	32	17	^14>	<16>	40	NIVE-2 (NET)	
NE	<u>^1.3</u>	<0.76	\$0.65	20.00	<1.5	<1.5	<1.3	<1.4	<0.69	4.1	<0.67	<3.1	<0.69	9.1>	<0.68	<u>&lt;1.1</u>	<1.3	<1.2	<0.64	<1.2	<0.76	<1.2	<1.4	<1.3	NIV-2A (NET)	<u>.</u>
7,156	<b>\$2</b>	<66>	<26	7.7.7	4 500	700	005	460	<28	<44	<27	800	<28	<:06	<27	<42	<53	<47	<26	<48	<30	<47	<130>	<54	MW-28 (NET)	Kreher Park Wells
<01>	<b>64</b>	<38	<32		\mathref{\pi}	<75	<66	<72	<34	<54	<85>	<150	<34	<82	<96>	<53	<66	<58	<32	<120>	<38	<59	<68	<67	MW-3 (NET)	ils
7,620	<520	<300	1,600	4,200	2 300	<600	<520	<1,100>	<280	<440	<860>	<1,200	<280	099>	<270	<420	<530	<470	<260	<480	<300	<099>	<540	<1,100>	NIW-7	
1,663	<11>	<b>△30</b>	140	07.2	930	<b>660</b>	<52	<011>	<28	<62>	<65>	<120	-:28	-66	<27	<42	<53	<47	<26	<48	<30	<50>	<\$\$>	190	11-W.I.	
	50	1,200	:	٥	·	:	;	:	;	80	80	:	20	;	0.02	;	:		0.02	0.02	,	600	;	:	PAI.	
	250	6,000	;	5	\$	:	1	:	:	400	400	:	- -	;	0.2	'		'	0.2	0.2	:	3,000	:	ı	<b>3</b>	

To a do not not set to ten ton. The action Equated Chambers and at greater than Emate of Detection Concentrations exceeding the US have been shaded.

	and the	-		-		
-						
-	-					All and a second a
					***	
-			-			
•		_	-			
- :		-				

# Table 5 (Page 6 of 6) November 1999 Groundwater Results - SVOCs Northern States Power, Ashland, Wisconsin

				Kr	Kreher Park Wells	ls ·				
Analγte	Units.	AIW-LQBED,	мах-гумет,	ADX-ZA-QNETO,	NON-DILIPRICITY	CERNING MICH	75.38W	45 38.5.	7%.	5
Acenaphthene	μg/L	310	40	5.1>	<\$4	<67	<1,100>	190	:	:
Acenaphthylene	ուն/Լ	<64>	<16>	<1.4	<130>	<68	<\$40	<55>	-	:
Anthracene	րք/Ն	<69>	<14>	<1.2	<47	<59	<660>	<50>	600	3.000
Benzo(a)anthracene	µg/L	<30	17	<0.76	<30	<38	<300	<30	;	'
Benzo(a)pyrene	µg/L	<100>	32	<1.2	<48	<120>	<480	<48	0.02	0.2
Benzo(b)fluoranthene	հե/լ	26	22	<0.64	<26	<32	<260	<26	0.02	0.2
Benzo(g,h,i)perylene	μg/L	<47	22	<1.2	<47	<58	<470	<47	;	:
Benzo(k)fluoranthene	րք/Լ	<b>\$3</b>	<u> </u>	<1.3	<53	<66	<530	<53	:	:
Butyl Benzyl Phthalate	μg/L	<42	<4.2	4.1	<42	< <b>5</b> 3	<420	<42	;	;
Chrysene	hg/L	<84>	23	<0.68	<27	<96>	<270	<27	0.02	0.2
Di-n-Butylphthalate	μg/L	<66	₹6.6	÷1.6	<66	-#2	<660	<66	1	:
Dibenzo (a,h) Anthracene	Jug/L	<28	<2.8	<0.69	<28	<34	<280	<28	20	<u>0</u>
2,4-Dimethylphenol	րք/L	<120	<12	3.1	800	<150	<1,200	<120	:	:
Fluoranthene	pig/L	98	33	<0.67	<27	<85>	<860>	<65>	80	400
Fluorene	нв/L	<120>	<u></u>	4.1	<44	<54	<440	<62>	80	400
Indeno (1,2,3-cd) Pyrene	μg/L	<28	20	<0.69	<28	<34	<280	<28	:	:
2-Methylnaphthalene	μg/L	520	32	<1.4	460	<72	<1,100>		:	1
2 Methylphonol		·33	5,7		20	ři.	5 <b>1</b> 9	= -	:	:
-	_	_	-440	_	44	-				